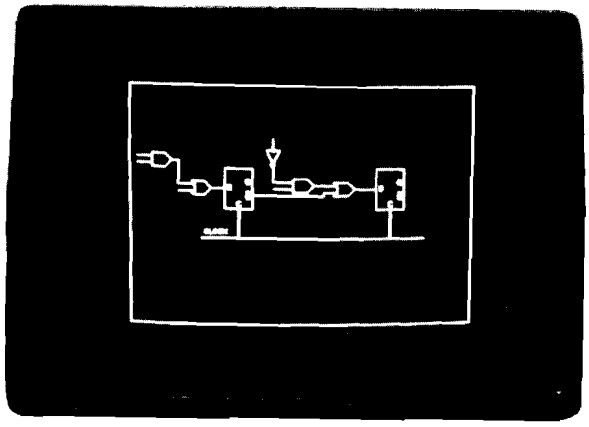
For HP Field Personnel

REINHARDT, HELMUT
FRANKFURT
HP3A

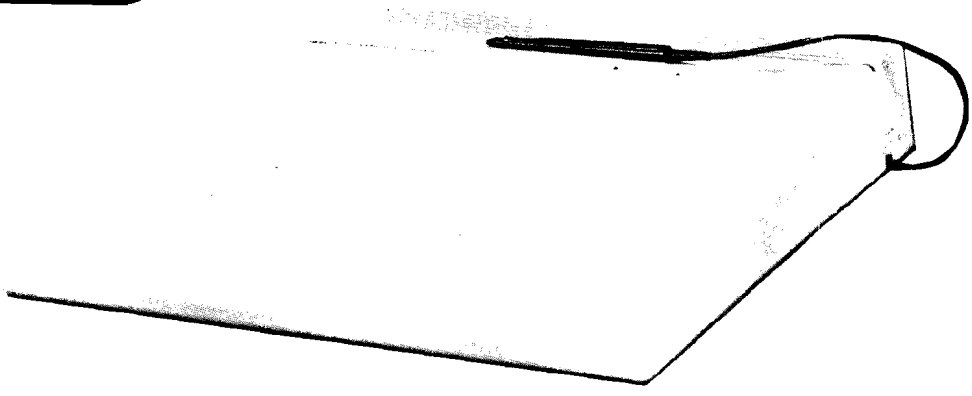
September 1, 1980

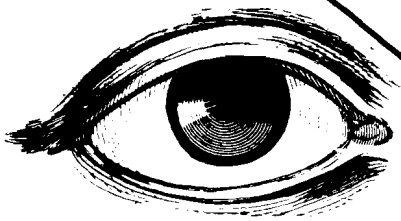
Computer News

DRAW ON YOUR CRT !



with The New 9111A Graphics Tablet





Special Graphics Supplement Inside

For Internal Use Only

Computer News

September 1, 1980
Vol. 5, No. 20

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Computer Marketing

CSD

CSD Adds New SRO in The Far East

By Ken Hunt/CSD

We are proud to announce a new Service Responsible Office (SRO) in Kuala Lumpur, Malaysia. This increases HP's Support ranks to 164 offices in 38 countries worldwide. The Kuala Lumpur office provides service to the Malaysian Peninsula and supports our HP factory facilities in Penang, Malaysia. Due to the size of the office and the local travel conditions, Kuala Lumpur will provide support for a limited number of products from 8am-5pm, Monday through Friday and the response times will depend on distance from the office (4 hr response in zone 1 only). Kuala Lumpur is currently supporting our customers and will appear in the next update of the Customer Service Travel Guide as:

KUALA LUMPUR, MALAYSIA
LIMITED PRIMARY/BASIC/ZONES

and in the Computer Systems Support Services Data Book as:

Hewlett-Packard Sales (Malaysia) SDN BHD.
Suite 2.21/2.22 Bangunan Angkasa Raya
Jalan Ampang
Kuala Lumpur, Malaysia
Telephone: 483544
Office Code: 6800

Computer Groups' New Supplements to Field Orientation Program

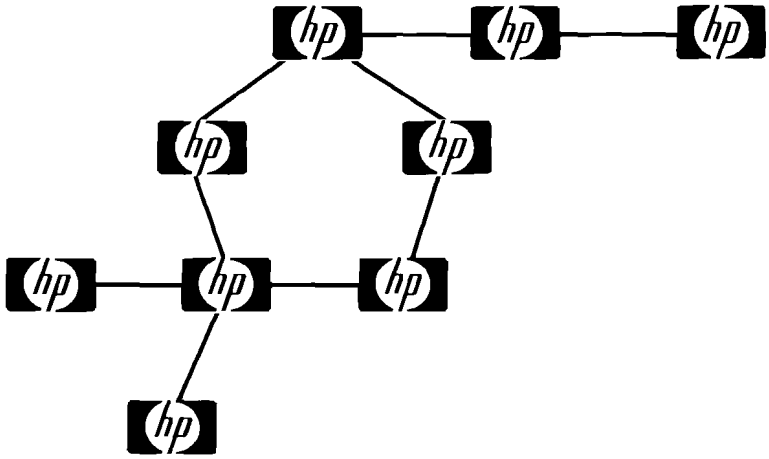
By Mark Lee/CSD

The new CG Supplements to the Field Orientation Program (FOP) are now available from CSD. These supplements are designed for SRs and SEs to be used concurrently with the FOP prior to attending Corporate Neophyte-Overview training.

There are two forms of the new supplement: an SR version (5955-6106) and an SE version (5955-6116). A CE version is currently under development. CSD will automatically ship these packages approximately four weeks before the starting date of a given Corporate Neophyte-Overview to every registered student. Also, if desired, managers may order a back-up supply from Jackie Hubbell (COMSYS code 5000.)

Remember, too, that the FOP (P/N 5955-4718; Division #: 0020; Price: "Please Adv"; and Check Digit: 5) itself can either be obtained from your Personnel Department or ordered on a HEART 12. Delivery will be approximately one week in the San Francisco Bay area, two weeks in other parts of the US, and three weeks overseas. (Note: The FOP is not automatically sent. It must be either obtained from Personnel or ordered on a HEART 12 using the information given above.)

DSD
1980



DISTRIBUTED SYSTEMS/1000-IV

★Fourth Generation Distributed Computer Capability for HP 1000

By Howard Bain/DSD

A letter from Jim McCabe, Product Marketing Manager, DSD, sent to the worldwide computer sales force (SRs & SEs) in mid August, outlined the following new capabilities to the HP 1000 family that will increase our lead over DEC for distributed computer applications.

- HP adds the L-Series computer to the DS/1000 network and a modem link to the HP 3000!

HP beats DEC in easy to use multi-computer family networks! (1000-3000-250)

- HP adds industry standard HDLC protocol and microprocessor based link I/O cards to DS/1000. This improves network performance by 100% and gives us up to a 2 to 1 performance advantage over DECNET! It also reduces CPU overhead for DS nodes by up to 100%.

A definite advantage over DECNET — See DS/1000 performance brief.

- HP introduces a breakthrough in DS network integrity with the best industry approach to message accounting and rerouting!

A subtle but very important advantage over DECNET — check the Field Training Manual.

- HP introduces measurement control I/O cards and IMAGE Data Base Capability for the L-Series computer!

DEC's 11/23 and LSI-11 don't have data base capability!

- HP introduces a microprocessor based multiplexor card for the HP 1000 with 8-channel 9600 baud capability!

WOW! Its finally here — Goodbye multiple 12966 cards.

- HP introduces DATACAP/1000-II with support for new 307X terminals (bar code & mag stripe), READ/WRITE access to IMAGE and transaction logging enhancements!

A unique product. DEC doesn't have it. IBM just announced two years after we had it!

★Announcing DS/1000-IV

By Howard Bain/DSD

Effective September 1, '80 you will have a new distributed systems product to sell from the Corporate Price List — DS/1000-IV.

To prepare you, the following material was mailed during August: a pair of Field Training Manuals (one for software, one for hardware), a new DS/1000-IV Sales Brochure, DS/1000-IV Data Sheets, a DS/1000-IV Performance Brief.

This fourth generation distributed systems product for the HP 1000 computers introduces:

- DS for the HP 1000 L-Series
- HP 1000-HP 3000 Modem Link
- Significant new Network Management Features resulting in improved network reliability and support for larger networks.

DS/1000-IV is structured as one software product and five new microprocessor-based interface products. The intelligent interfaces significantly off-load much of the communications overhead from the CPU. The software is backwards compatible with the present DS/1000 and offers your existing customers a smooth upgrade path with no need to change their application programs. Moreover, the new software can operate with either the new microprocessor interfaces or the existing now-intelligent communication cards. Both the new DS/1000-IV software and the existing DS/1000 software can co-exist in the same network.

For complete sales information on the new product and a comprehensive competitive analysis refer to the Field Training Manuals.

HP is a leading supplier of networking products. Now this new fourth generation product, DS/1000-IV, will give you the opportunity to make a quantum leap in sales.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

★Ordering Software/Firmware Support for DS/1000-IV

By Gary Lim/DSD

As of September 1, '80, DS/1000-IV (91750A) will be offered on the CPL. There are five new interface cards on which firmware is subject to updates. Support for this firmware will be ordered differently from the way firmware support was handled previously.

In a nutshell, firmware support is now orderable as an option under the software support products (instead of as a separately orderable subscription product). Before giving the options here, let's review the five different interfaces:

12793A — BISYNC protocol, modem interface (1000/3000)
12794A — HDLC protocol, modem interface (M/E/F-Series)
12855A — HDLC protocol, direct connection (M/E/F-Series)
12007A — HDLC protocol, modem interface (L-Series)
12044A — HDLC protocol, direct connection (L-Series)

The 12793A interface has two ROMs subject to updates, currently 91750-80005 and 91750-80006. Each of the other four (HDLC) cards all have two other ROMs subject to updates, currently 91750-80001 and 91750-80002. Hence, there are only two types of firmware subscriptions necessary, one for HDLC, and one for BISYNC.

The options for 91750T, DS/1000-IV Customer Support Services, are as follows:

91750T DS/1000-IV CSS

-020 Software updates on minicartridge
-041 Software updates on flexible disc
-050 Software updates on 800 bpi Mag Tape
-051 Software updates on 1600 bpi Mag Tape

-101 Firmware support for one HDLC interface
-102 Firmware support for two HDLC interfaces
-104 Firmware support for four HDLC interfaces
-108 Firmware support for eight HDLC interfaces
-116 Firmware support for sixteen HDLC interfaces

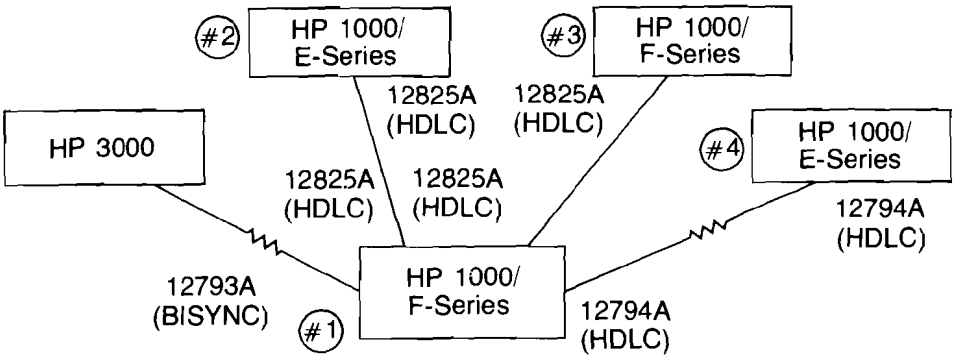
-201 Firmware support for one BISYNC interface
-202 Firmware support for two BISYNC interfaces
-204 Firmware support for four BISYNC interfaces
-208 Firmware support for eight BISYNC interfaces
-216 Firmware support for 16 BISYNC interfaces

One media option and at least one firmware option must be ordered.

The binary notation for the options is to cover the likelihood of having several interfaces on the same CPU. Combining any or all of the options provides support for a range of 1-31 interfaces per CPU.

91750S (Software Subscription Service) carries the same options. The support extension products, 91750W and 91750V both carry the 10 firmware support options (no media option necessary).

Here's an example:



To support this configuration under CSS for one year with respect to DS/1000-IV, the following must be ordered (remember, quantity is in months, and assume the system has a 7970B Mag Tape):

System #1			
	12	91750T	DS/1000-IV CSS
	12	-050	Updates on 800 bpi Mag Tape
To support a total of three HDLC interfaces	12	-101	F/W support for one HDLC interface
	12	-102	F/W support for two HDLC interfaces
	12	-201	F/W support for one BISYNC interface
System #2			
	12	91750V	Central Support for add'l. 91750A
	12	-101	F/W support for 1 HDLC I/F
System #3			
	12	91750V	
	12	-101	
System #4			
	12	91750V	
	12	-101	

This arrangement for firmware support was used to minimize the number of support services product numbers. For further input or questions, call me.

Introducing DATACAP/1000-II

By Millo Fenzi/DSD

DATACAP/1000-II includes a number of significant enhancements to DATACAP/1000. One of these is the shared data base capability. DATACAP-II provides individual record locking so other programs can modify the data base concurrent with DATACAP II's use of it. Equally important is the support of the new datacapture terminal features; the CRT, bar code, and magnetic stripe readers.

A new Sales Training Manual (7/80) FTM 7-07 describes the features of DATACAP-II and a new data sheet is included in the Software Technical Data Supplement (7/80) 5953-4257. In addition, DSD Technical Marketing did an extensive rewrite of the old manual to make a DATACAP-II reference manual (7/80) 92080-90001. The new manual contains over a dozen user written subroutines to aid your customers in developing the solution to their data collection applications.

DATACAP/1000-II is an even more sophisticated software tool that minimizes the time required to design, implement, and maintain a data collection application. 92080A DATACAP/1000-II is priced at $5,000 and is on the August 1 CPL with an eight-week availability. Use DATACAP-II to break into manufacturing accounts!

DEC Deliveries Still Way Out

By Steve Pomeroy/DSD

In a recent article (August 4, '80) *Computer Systems News* reported that lead times for DEC's computers are still very long. Based on a survey of OEMs conducted during the month of June, *CSN* reported the following availability on DEC products:

Product	Range (Days)	Avg. Availability (Days)
LSI-11/03	30-650	267
PDP-11/34	150-270	200
PDP-11/44	200-365	321
PDP-11/70	180-365	302
VAX-11/780	90-270	180
VT100 CRT Term	120-360	

Availability on HP 1000 Systems is 8-10 weeks (56-70 days). Take advantage of our short delivery times to win against DEC!

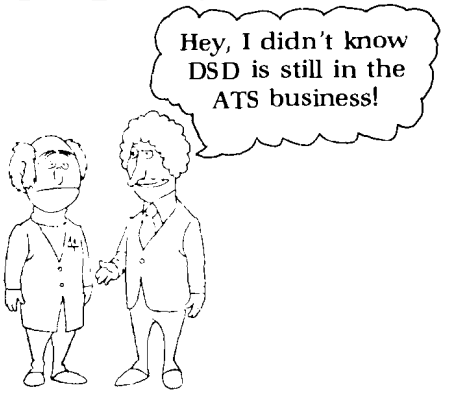
Card Cages for M/E-Series Boardcomputers

By John Moss/DSD

There is longstanding confusion over the differences between the 12728A, 12728B and 12728J Card Cages for M- and E-Series Boardcomputers. Contrary to the CPL, SODA and HP 1000 data books, all three card cages can be used with either the M-Series (2108K/MK) or E-Series (2109K/EK) boardcomputers.

The real difference, other than the number of slots, is the interface they provide for the power supply. The 12728A and 12728B were designed to interface with the "A" power supply (obsoleted in late 1977) while the 12728J interfaces with the "B" power supply (currently used in M-, E- and F-Series computers). The CPL, SODA and HP 1000 data book descriptions are now being changed.

As most boardcomputer customers build their own power supplies, the selection of the right card cage depends on the power supply interface they have developed. During the past couple of years the de facto choices have been the 12728A 8-Slot Card Cage and the 12728J 18-Slot Card Cage. As sales of the 12728B 18-Slot Card Cage have been essentially zero during that time, we plan to remove the 12728B from the CPL on December 1, '80. You may quote it through November 30, '80 and accept orders through December 30, '80.



ATS/1000 Students Wanted

By Andy Mills/DSD

Yes, Luke, DSD is still in the ATE business. In fact, it represents about 20% of DSD's current shipments. Currently, there are about 20 ATE Systems in various stages of integration on the floor, with an average value of approximately $300,000. With a nationwide awareness and emphasis on productivity and automation, the ATE business is booming and should continue so throughout the 80's.

To increase your chances of landing one of these big dollar deals, DSD is offering a two-day in-depth training course on ATE at your office. Two courses have already been given. The first held in Rockville, was attended by about 40 of the 01 & 02 SRs, SEs & CEs. The second, in Rolling Meadows, had about 20 participants. A third course was scheduled for August 28 & 29 in Huntsville, Alabama.

The course is intended to clear up many of the "mysteries" about ATE and provide you with enough knowledge to discuss the product with your customer and to be able to quote the system.

Future courses will be scheduled on a request basis and given when and where you want them.

So Luke, don't forget that this training is still available and can be scheduled in your region. Some exciting things are happening in ATS . . . don't miss this chance to get in on some big $ opportunities.

Roseville

Measurement and Control Support Goes to Roseville!

By Paul Accampo/DSD

As of August 18, DSD Roseville has full hardware and software support of all Measurement and Control products. The major products are: 2240A, 2313B, 6940A (Software only), and 91000A. Roseville will also have responsibility for the HP-IB on HP 1000 products. (ATS will still be supported at DSD Cupertino.)

YHP

YHP Ships First "L"

By Yoshie Hashima/YHP

YHP's first L-series computers (three systems and five boxes) were shipped out to TDK (our big VEU and the worldwide tape manufacturer) on July 29.

According to the L-scoreboard data from DSD Marketing, YHP accounts for almost 20% of total YTD!

Grenoble

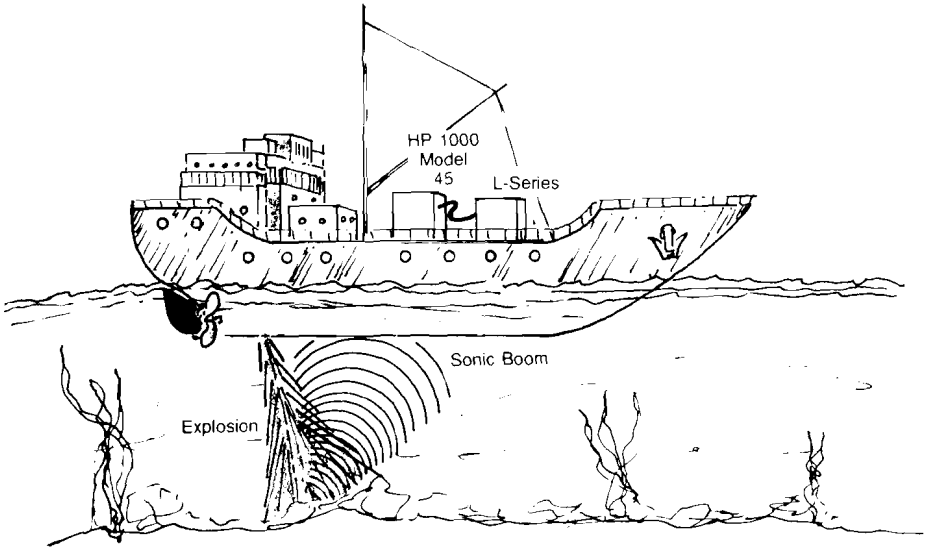
Shipboard "L" Application

By Claire Hunt/HPG

An oil exploration company has purchased an L-series computer to be used on board a ship in the North Sea to plot the ship's position and collect seismographic data from the sea bed.

The computer system comprises an HP 1000 model 45, 120 megabyte disc with an IMAGE/1000 data base and the L-series computer. The HP 1000 model 45 carries out fast Fourier transforms. The L-series is used as a front end computer, as a data gathering device, connected to a "navigation box" which passes large volumes of data through parallel data channels.

Why the L? It has the excellent I/O capacity necessary for this type of application, freeing the HP 1000 Model 45 for number crunching activities. The customer had no hesitation installing the equipment on a boat — he's not the first; there are several HP 1000's being used in ship installations in Europe.



DCD

★9835/45 Spectacular

By John Boose/DCD

As mentioned in *Computer News*, August 15 issue, the new 9835/45 "Performance Plus" options are available for customer shipment. These powerful new options are:

9845B Option 190 "Maxi" System — $33,500 (US)
9845C Option 190 "Maxi" System — $49,500
9835A Option 110 I/O System — $12,400
9835A Option 120 Terminal System — $13,400
9835A Option 130 Statistics System — $12,400

These options, coupled with the lowering of memory prices across the board, make the 9835 and 9845 more price-competitive than ever before. The addition of Hard Discs and the 7910H Winchester disc on the 9835 help make the 9835 one of the lowest-priced desktop computers on the market with these capabilities. These new capabilities should go a long way toward making both you and your customer successful!

★Additional 9835 Software

By Dave Deane/DCD

Two new application software packages, General Statistics and Analysis of Variance, are now available for the HP 9835. The addition of these packages gives the 9835 statistical capabilities that will satisfy the bulk of your customers' computational needs.

The statistical offerings on the 9835, comparable to those of the 9845, include:

- Basic Statistics and Data Manipulation
- Regression Analysis
- Statistical Graphics
- Nonlinear Regression
- Analysis of Variance
- General Statistics

The suggested configuration for performing statistical analysis includes a 9835A and an 80-character printer (9876 or 2631). A 9872B plotter is also strongly recommended for your customers with data display needs.

An application summary describing all of the 9835 statistical software will be available soon. In the meantime, use the 9845 application summary to show customers our strong stat software.

New Electrical Engineering software is also available. AC Circuit Analysis is a translation of the 9845B programs, and requires a plotter to be used on the 9835A. Waveform Analysis is a new pack for the 9835A written in Assembly language, so it is faster than the 9845B BASIC Waveform Analysis pack.

Ordering information, now included in the price list, is shown below for your convenience:

P/N	Title	Price
09835-15030	General Statistics	$500
09835-15070	Analysis of Variance	500
09835-12520	AC Circuit Analysis	500
09835-12500	Waveform Analysis	500

★Memory Price Reduction

By Dave Morse/DCD

Effective September 1, memory for the 9835A/B and 9845B will be priced at 3.5¢/byte, and for the 9845C/T at 2.5¢/byte. The new prices are very aggressive when compared with some competitive offerings: 6¢/byte for the Tek 4052/54, and 4.9¢/byte for the IBM 5120. Bigger memories allow your customer to process larger arrays and reduce access to mass storage for data retrieval or program linking. The new memory prices, especially when considered with the new systems for the 9835 and the Option 190 for the 9845, make these larger memories much more attractive, even for your most cost-conscious customers.

Here are the new prices:

9835	Opt. 201	+64 Kbytes	$2,250
	Opt. 202	+128 Kbytes	4,500
	Opt. 203	+192 Kbytes	6,750
	98322F	+64 Kbytes	2,250
9845B)	Opt. 204	+128 Kbytes	$4,500
)			
9845C)	Opt. 205	+256 Kbytes	9,000
Opt. 001			
	Opt. 206	+384 Kbytes	13,500
9845T	Opt. 215	+128 Kbytes	$3,200
9845C			
	Opt. 216	+256 Kbytes	6,400
98425A		+128 Kbytes	$4,500
98426A		+256 Kbytes	9,000
98427A		+384 Kbytes	13,500

DCD order processing will work with the field OP groups to ensure that open orders as of September 1 will receive the benefit of the lower prices, in accordance with HP corporate policy. Please correct your field handbook to reflect these changes.

★Growing With Color

By John Boose/DCD

As mentioned in the August 15 *Computer News*, September 1 is the introduction date for the new 98771A Upgrade Kit to convert the 9845B to the 9845C. This is another step in providing 9845B customers upward compatibility, as they can now "grow with color" into the new 9845C.

Priced at $19,500 (US), the 98771A converts any 9845B configuration into its color equivalent, including the light pen. Option 101, field installation, will also be required. As with 9845A to B upgrades, we are asking customers to return all exchanged parts, including their old tops, to Hewlett-Packard. Delivery will initially be quoted at 13 weeks. 9845A customers must first upgrade to a 9845B via the 98401A or 98402A Upgrade Kits before converting to color.

This new upgrade kit will be promoted via press releases and an article in *Keyboard* magazine. We recommend that the 45C Flyer (P/N 5953-4504) be used as a local promotional piece. Also, we have updated the Upgrade Kit Technical Supplement (P/N 5953-4544) to include the 98771A, and it will be mailed in quantity to field offices in early September (includes a sign-off sheet releasing replaced parts to HP). The 98771A is worth one functional unit on the A1 discount schedule; GSA approval has been requested.

Since the 9845C's introduction, we've had many customers desiring to "grow with color." We now have a product that has nearly 10,000 built-in leads, no competition, and a $19,500 contribution toward quota!

Helping You Find New OEMs

By Al Sperry/DCD

Help is now available to you in locating prospective OEMs that you can convert into customers. A promotional package was sent in July to all US and Canadian sales offices, and to country managers in ICON and Europe. It includes the new OEM brochure pictured above (P/N 5953-4528), a flyer and a letter.

The OEM flyer (no part number) was mailed directly to about 9,000 product managers and marketing managers in US and Canadian manufacturing companies. It is also available in limited quantities from DCD for local promotions; contact Frank Ryan or Sam Flores in Fort Collins.

Resulting leads from the mailing in the US will be prequalified by telephone interviews before they are sent to you, so the ones you receive will have good sales potential. Be sure to give them high priority!

Teamwork Makes *Keyboard* Articles

By Bill Sharp/DCD

International teamwork is responsible for many of the best application articles that appear in *Keyboard* magazine. Without help from field and factory people around the world, we would be unable to produce high-quality stories about our customers. The excellent articles from Europe and ICON now appearing in *Keyboard* illustrate this.

Jaap Vegter of Amstelveen helped us get the Gasinstituut article in the July/August issue. *Jacques Marquizeau* and *Roger Marhuenda* of Orsay made possible the upcoming September/October article about the Solex Carburetor Company. In the same issue, *Kazuo Nomura* of YHP coordinated an article about how the Nikon Camera Company of Japan uses desktop computers.

"New" 9835A/B Discs

By John Boose/DCD

You may recall when we announced hard disc capability on the HP 9835A/B via the 98331B Mass Storage ROM last fall. You may also recall that we had to renege on this capability after discovering problems with the 9835 backplane. The problems are solved; the 98331B has been released for shipment with eight week availability and a $500 price. Most important, the 98331B brings even more capability than originally anticipated.

Hard Discs. With the 98331B, the 9835A/B can talk to the HP 7906, 7920, and 7925 M/S/H discs. Even the Integrated Disc Controller (IDC) discs are available! A modified 98041A "Greyhound" interface is also required. 9835s are now being shipped with a slightly modified backplane which enables this capability. Current 9835 customers who purchase the 98331B for use with hard discs will be allowed to update one 9835 under warranty for each disc purchased. All 98041As now include the modification.

9895M/S. The 98331B contains the necessary drivers to interface to the 9895. As with the 9845, the 9835 is interfaced to the 9895 via the 98034A HP-IB card. Note that only mass storage peripherals can be hung on the HP-IB card (maximum four devices). Another 98034A is required for additional peripherals and instruments.

7910H. One of the most significant announcements is that we now have HP 7910H capability on the 9835. The 7910H brings a low cost Winchester solution to the 9835A/B. The 7910H also utilizes the 98034A HP-IB interface card. Up to two 7910Hs or a 7910H and a 9895M/S are supported on one 98034A card. Therefore, the 7910H can be backed up with another 7910H or selectively backed up using either the 9895 or 9885 floppy discs. Even though the 7910H is extremely reliable, backup should be recommended in all applications.

9885M/S. Drivers for the 9885M/S are also contained in the 98331B. Because of this, the 98331A ROM will be taken out of production.

These new capabilities show our continued support for the 9835A/B, and should help in many competitive situations. This complete line of disc offerings should help position the 9835A/B as one of the most powerful mid-range desktop computers available today.

9845 Disc Considerations

By John Boose/DCD

With the introduction of the 98331B ROM on the 9835A/B, two inconsistencies arise between HP 9845B/C disc support and HP 9835A/B disc support.

First, the M/S/H series discs from DMD are all supported on the 9835, while only the M/S discs are supported on the 9845. The 9835 has just enough bandwidth to support discs which include the non-buffered Integrated Disc Controller (IDC) discs. In contrast, the 9845 dual port memory is just a little too slow to support the data rate for IDC discs, due to interactions between the LPU and PPU processors. (Remember, the 9835 has only one processor.) It would take a major redesign effort to rectify this situation on the 9845, and there are no plans to do this.

Second, the 7910H Winchester Disc is now supported on the 9835, but not on the 9845. A few of the original 98431A Rev A Mass Storage ROMs included the Mass Storage Unit Specifier (MSUS) and drivers to support the original 7910. Several complications arose in releasing the 7910, and some redesign took place. Consequently, the MSUS was taken out of the 9845's Mass Storage ROM, and the drivers no longer work with the released version of the 7910. On the other hand, the 9835 Mass Storage ROM development lagged behind that of the 9845 ROM, and we were able to incorporate the necessary changes to drive the released version of the 7910.

We have recently invested the manpower resources at DCD to develop next generation disc drivers for the 9845. We are committed to be able to introduce DMD's new series of Winchester Discs concurrent with DMD's introduction in FY'81. We all feel that the 9845 needs a Winchester Disc to complement its Mass Storage offering, and the necessary investment is being made now. For desktop computer customers who require a Winchester disc today because of harsh environmental considerations, we can offer the 9835 and 7910 solution.

We have also had many questions about the 7970 9-track Tape Drive. Currently, several people at DCD are working on drivers and utilities to support this product on the 9835 and 9845. The main purpose we see for this capability is IBM compatibility, but it can also serve as a good backup device for our discs. In particular, because the 7910 does not incorporate backup, customers might consider the 7970 as a backup device for this product. The 7970 will require the Greyhound interface, and is scheduled to be introduced at the latest in First Quarter.

The following table shows the discs supported on both the 9835 and 9845.

9835/45 Mass Storage

			9835A/B 98331B M.S. ROM		9845B/C 98431A M.S. ROM	
Disk	Description	"M" Price w/Option	Option	Interface	Option	Interface
9885M/S	.5 Mbyte Floppy	$3,750	035	98032A opt 385 (inc w/opt 035)	045	98032A opt 485 (inc w/opt 045)
9895M/S	1.1 Mbyte Floppy	6,500	035	98034A ($500)	045	98034A ($500)
7910H	12 Mbyte Winchester	8,350	n/a	98034A ($500)	n/a	Not available
7906M/S	10 Mbyte Fixed 10 Mbyte Removable	16,000	102	98041A opt 035 ($2,200)	102	98041A opt 045 ($2,200)
7906H	10 Mbyte Fixed 10 Mbyte Removable	13,000	n/a	98041A opt 035 ($2,200)	n/a	Not available
7920M/S	50 Mbyte Removable	19,000	102	98041A opt 035 ($2,200)	102	98041A opt 045 ($2,200)
7920H	50 Mbyte Removable	16,000	n/a	98041A opt 035 ($2,200)	n/a	Not available
7925M/S	120 Mbyte Removable	22,000	102	98041A opt 035 ($2,200)	102	98041A opt 045 ($2,200)
7925H	120 Mbyte Removable	19,000	n/a	98041A opt 035 ($2,200)	n/a	Not available

Production Discontinuance of 9825A/S ROMS and Accessories

By Larry Inman/DCD

To complete the information given in the August 1 issue, the following 9825A/S items will be taken out of production with the 9825A/S on November 1, '80: 98221F 8K field memory upgrade kit; 98222F 16K field memory upgrade kit.

One year later, November 1, '81, the following 9825A/S-unique ROMs will be taken out of production: 98210A String-Advanced Programming ROM; 98212A 9862 Plotter-General I/O ROM; 98213A General I/O-Extended I/O ROM; 98214A 9862 Plotter-General I/O-Extended I/O ROM; 98215A 9872 Plotter-General I/O ROM; 98216A 9872 Plotter-General I/O-Extended I/O ROM

Make sure your 9825A customers are aware of these upcoming changes (in addition to the 9825A/S discontinuance). For questions, please call your DCD PL97 sales support person.

Analyzing Radiation Uptake With An HP Desktop System

By Dave Deane/DCD

A Wilmington, North Carolina, General Electric plant produces fuel for nuclear reactors. As GE is concerned about radiation exposure to its employees, it uses an HP desktop system to analyze ad-hoc employee radiation exposure data and to perform some radiological safety studies.

Dr. Ed Powers, a senior safety engineer, assembled a sophisticated desktop system comprising an HP 9845T with 446 Kbytes of memory, dual floppies and a 50-megabyte disc for mass storage, a 9871 Hard-Copy Printer, and a 9872 four-pen Plotter and 9874 Digitizer.

The Nuclear Regulatory Commission requires nuclear facilities to keep in-depth records on employee radiation exposure and on material accountability. Dr. Powers uses HP's forecasting software to predict trends in airborne concentrations. The non-linear regression package is used to model human uptake and biological transport of radioactive materials.

A complete floor layout of the facility has been produced using the digitizer which is also used to manipulate air sampler and process equipment. The four-pen plotter generates graphics of the statistical results.

All the basic radiation data is maintained on a data base in GE's main computer center. The Terminal Emulator software package and a modem are used to download selected data from the large data base onto discs. The analyses are then done by the 9845.

Why a 9845 when large computing facilities are available? The statistical routines on the 9845 are not offered on GE's larger computers. The data analysis does not require a large machine, and the HP desktop systems provide a friendly alternative. Dr. Powers was able to show a substantial dollar savings by using the HP gear. Besides, it's at his fingertips.

BDD

Third Party Software Meeting for Technical Applications: Update

By Jose Heras/BDD

The following table is a full list of third party software packs presented at the recent meeting in Boeblingen. There is also a booklet that describes these software packs in detail. If you would like a copy of the booklet, contact me in BDD Marketing.

Market	Application Group	Application Pack	Pack Name
Mechanics	Graphical Design and Drafting	2D	Iris
		2D	Media
		2D	Arcade
		3D	Fig-3D
	Analytical Design	Cams & Linkages	Disko
		Gears	Ygear
		Shafts	Ados
		Gears	Gear-1
		Ship Building	Pilot
	Analysis	Vibration	Mac-Vibra
		Space-Frame	Dyfra
		Plane Frame	Stafra
		Axisymmetric Shells	Esas
		Measurement Control and Signal Analysis	Meas 80
		Finite Elements	Fesdec
		Finite Elements	Femin I
		Tolerance	Toltec
		Model	LM-100/200
	Manufacturing Planning	Production Control	F-Steu
		Production Planning	Klalal
		Production Control	Prustyr
		Production Control	Dia Plan
		Project Administration	Totdem
	Manufacturing Control and Monitoring	NC — 2D (Off-Line)	AP-100
		NC — 2D (Off-Line)	AP-200
		NC — 3D (Off-Line)	AP-300
		NC — 2D & 3D (Off Line)	Philip II
		NC Flame Cutting	Biceps
		NC Special Application	Digita
		NC Special Application	Disco
		NC 2D & 3D (Off Line)	Elan
	Electrical Engineering	PC Layout	
		PC Layout	
	Civil Engineering	E Structures	
	Others	FORTRAN Compiler	Comfort

Business Computers

GSD

★HP DSG/3000 Update

By Jutta Kernke/GSD

In *Computer News*, August 15 issue, GSD announced the introduction of the HP 3000 business computer graphics software — HP DSG/3000. A package containing a copy of the Sales Training manual and the DSG/3000 Management Brochure was mailed to each commercial SR on August 15.

DSG/3000 will run on the current version of the MPE operating system and V/3000, which is part of the fundamental operating software, is required for interactive chart definition. The minimum hardware system required to implement the business graphics software is an HP 3000 Series II, III, 30 or 33. Both, the 2647A and 2648A graphics terminals are supported, and for chart definition only, the 2641A, 2645A and 2626A can be used. Supported plotters include HP-IB: 9872A/B/S (four-color), 7225A and 7245B printer/plotter; RS-232: 7221A/B/S (four-color) and 7225A.

What about competition? We are ahead! With DSG/3000, HP offers a one-vendor solution! The HP 3000 computer combines business graphics capabilities, data base management, data handling and multiprogramming, all features available over a distributed systems network. A combination no other business computer vendor can match.

IBM announced its move into business computer graphics in November '79 with the introduction of the 3279 raster scan color graphics terminal, the 3287 companion hard-copy printers, and software to provide standard business graphs. The software contains two major programs: The Graphical Data Display Manager (GDDM) and Presentation Graphics Features (PGF). GDDM and PGF will run on any IBM System/370 or 4300 series processing unit.

GDDM forms the foundation for graphics and is required for PGF. Combined monthly charge is $160, with monthly licensed support charge of $60.

Neither Prime, Wang, DEC, nor DG offer vendor-developed business graphics software for their computer systems.

★ Expanded DS/3000 Networking Capabilities

By Dennis Carelli/GSD

Effective September 1, '80, the HP 3000 family of business computers — Series 30, 33 and III — will have expanded and improved distributed systems capabilities with the HP 1000 family of technical computers. The introduction of Data Systems Division's new fourth generation distributed systems product provides a new interface that will allow for the first time, DS communication between HP 3000 and HP 1000 systems via the INP or SSLC interfaces. These new capabilities anxiously awaited by many customers for over 12 months now provide for:

- Series 30 and 33 hardwired link to HP 1000 systems
- Series 30 and 33 modem link to HP 1000 systems
- Series III modem link to HP 1000 systems

These new communication links strengthen our HP Distributed Systems Network concept and provide new sales opportunities for HP 3000's. Now HP 3000 customers have increased flexibility in locating their network nodes and using the virtual terminal, remote file access and program-to-program capabilities of DS for extended HP 3000-HP 1000 communications. The new features make the HP 3000-HP 1000 link more friendly and easy to use while simultaneously offering greater throughput capability to support more extensive customer use.

With over 3,700 HP 1000 and HP 3000 nodes existing in HP networks, the success of our communication links is already established. The expanded DS/3000 networking capabilities will create even greater opportunities for HP 3000 sales.

★"Campaign 80" OEM Direct Mail Program

By Art Monk/GSD

During "Campaign '80", GSD is offering a program to help your OEMs introduce FIN/250 to their "HOT 100" prospects by direct mail. Many smaller OEMs typically haven't gotten into direct response marketing because they haven't the secretarial resources to do the job in a professional manner. *This is your chance to get them started, at no cost to your OEM.*

At no charge to the OEM, HP will direct mail a maximum of 100 of the OEM's best prospects either an attractive FIN/250 announcement kit asking to set up a FIN/250 demo or the OEM's own brochure. OEMs should send their lists to: Gary Spear, Hewlett-Packard, General Systems Division, 19447 Pruneridge Ave., Cupertino, CA 95014.

Third Party SRs should contact their OEMs right away to get them involved in the program. Some points to remember about lists:

- Try to identify target prospects on the basis of the small business accounting problems which FIN/250 solves. (check the FIN qualifier in your Field Training Material)
- Please have your OEM record the address accurately!
- Include titles whenever possible.

Response cards will be enclosed that return directly to the OEM's address. OEMs should be advised to acknowledge response cards ASAP! Prospects begin to lose faith after 48 hours if they haven't had a reply.

★Announcing Text and Document Processor/3000

By Steve Zalewski/CSP

No longer will you have to "no bid" systems proposals which require vendor-supported word processing. Beginning September 1, Text and Document Processor/3000 (TDP/3000), a text editing and document formatting system will be available on the HP 3000.

TDP/3000 is a command-oriented system which can be run on the same HP 3000 and with the same HP terminals that are used for data processing applications. Neither special terminals nor hardware is required. Your customers can add word processing capability for a low incremental cost: the price of TDP/3000 software!

An extensive set of TDP/3000 editing commands similar to those of EDIT/3000 and powerful formatting commands make the creation of manuals, form letters, memos, tables, multi-column reports, and computer programs, easy. You can move, copy, modify, insert or delete words, phrases, lines or paragraphs from any location in your document. Underlining, page numbering, centering, headings, footings and other standard formatting features you would expect from a sophisticated word processing system are contained in TDP/3000. Also available are many capabilities not commonly found:

- Table of Contents can be automatically created.
- Footnotes are numbered and placed on the correct page, even if the referenced item is moved to a different page.
- Built-in calculator does the four basic functions and square roots. It can work directly on tabular data in your document and even add the results as an extra table row or column.
- Automatic hyphenation has an exception dictionary of words which do not follow standard hyphenation rules and a user override option.
- Scientific and mathematical expressions such as $E=mc^2$ are formatted for you. The expression is input on a single line; TDP/3000 handles the half line super/sub scripting and fractions.
- Full file encryption will keep the file encoded even from the systems manager. This can be especially useful for confidential documents such as performance reviews.

TDP/3000 will be available in an English version only.

Text and Document Processor/3000 was purchased from Los Altos Research Center (LARC). From LARC, we also received a base of over 100 installations. For the first time, at product introduction, we can offer you 100 reference accounts spread across the US, Canada, Europe and Australia!

A completely new set of TDP/3000 manuals including a *Using TDP/3000 Guide*, a new customer training course, and full customer support service will be available from GSD to provide your TDP/3000 customers with the same full level of documentation and support services that they presently receive on our other software products. SE training will be done in the field with a stop in each US region during September/October.

TDP/3000 is the first product of GSD's newest program, Commercial Systems Pinewood (CSP), located in Pinewood, England. Part of Pinewood's charter is to develop HP 3000 word processing products for the worldwide market. All future enhancements to TDP/3000 will be handled by CSP.

TDP/3000 is priced at $6,000 with the right-to-copy costing $3,600. Customer support service is available at $60/month. Announcement in the US and Canada will be on September 1 with deliveries beginning in mid-October. United Kingdom announcement will follow shortly. Availability of the English-only TDP/3000 in other countries is dependent on locally trained SE support.

★TDP/3000 Special Offer

By Steve Zalewski/CSP

Through October 31, as part of "Campaign 80", Text and Document Processor/3000 will be reduced from $6,000 to $5,000. Orders must be received this fiscal year; the "right to copy" price is unaffected and remains at $3,600.

TDP/3000 at $5,000 — a Double Win for your customers: HP 3000 Word Processing! A $1,000 Savings!

BSP

New FIN/250 Flyer

By John Whitesell/GSD

A new four-page color brochure on FIN/250 is now available from Corporate Literature Distribution. Designed for use as a direct mailer, for handouts at customer seminars, etc., limited quantities of this flyer (P/N 5953-3426) are being distributed to all third party SRs in North America and ICON. When larger quantities are desired, please order them directly from Corp. Literature Distribution.

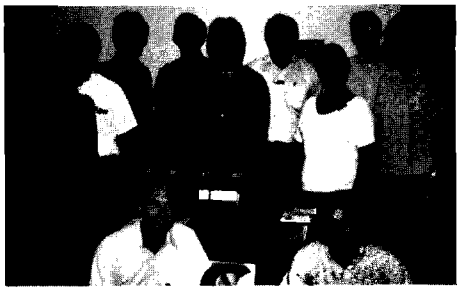
HP 250 Sound Enclosure To Be Obsoleted

By Stacy Plemmons/GSD

The sound enclosure for the 2631 printer, commonly sold with the HP 250 system, is being obsoleted. The 26090A Sound Abatement Cover, currently available from Boise, will be offered in its place. Product 45090, the old sound enclosure will be dropped effective with the Oct. 1 price list. Please notify your HP 250 customers.

The sound enclosure, while effective in reducing printer noise, has been overpriced for the HP 250 marketplace. The resulting low sales rate, and the availability of the 26090 abatement cover helped speed the obsolescence decision.

Computer Museum



FIN/250 Shipments Underway!

By John Whitesell/GSD

Customer shipments of FIN/250 and the APGL/250 subset have begun. Over a dozen OEMs have already ordered these HP 250 general accounting application packages, and several more orders are expected in the next few weeks. So get your HP 250 OEMs on the path to FINancial success and tell them to order FIN or APGL right now!

Shown here are some of the people most involved in the development, production, and marketing of FIN/250. We're here to help you sell!

MFG/250 Accepted Worldwide!

By Stacy Plemmons/GSD

How do you say "Manufacturing" in Japanese, Chinese, German, French, Spanish and the Queen's English? . . . MFG/250!

MFG/250 has now been sold to customers in 14 countries — the US, Canada, Mexico, Venezuela, Australia, Hong Kong, Singapore, Japan, South Africa, United Kingdom, Germany, France, Denmark, and Spain. This HP 250 software package is designed to help small manufacturers solve inventory control, bills of material and product costing problems for small, first-time computer users. Since it is sold primarily through OEM's, the package's installed base of small manufacturers, should make quantum leaps as the OEMs mature.

Two factors have contributed to the wide acceptance of this product. First, it is an outstanding example of how the simple, yet powerful HP 250 tools can be used to solve customer problems; and second, the manufacturing concepts addressed in MFG/250 are *universally* accepted. Manufacturers in Japan have the same problems and methods of solving them as manufacturers in Hong Kong, Mexico, South Africa or anywhere else.

MFG/250 is also an incredibly friendly package. Besides saying "Please" and "thank you" in many different languages, the software is well written and well documented. This means it not only solves problems for the manufacturer, but makes it easy for the OEM to enhance the package for individual users. Watch for future articles on specific MFG/250 OEMs and their customers.

OM/250 & MFG/250 Application

By John Whitesell/GSD

Staodynamics, Inc., a small ($3M/year), rapidly growing medical electronics manufacturer in Colorado, is another happy customer of HP's application software on the HP 250.

Staodynamics has been using MFG/250 since late last year, the Accounts Receivable portion of OM/250 since March, and has just recently gone "on-line" with OM's Order Entry and Inventory Control modules. This customer was also a beta test site for the new FIN/250 package, and now that the standard FIN/250 software has been released, is going on-line with HP's Accounts Payable and General Ledger modules as well.

The HP 250 is Staodynamics' first in-house computer system and according to Barry Carver, Staodynamics' Controller, computerizing was "the only alternative that would allow us to keep our head above water."

The customer's HP 250 system includes a 7906 disc drive and three remote consoles in addition to the main console. A second 7906 disc is planned for the near future. One terminal is used for order entry, a second terminal is used for accounts receivable activity, the third performs MFG/250 functions, and the fourth terminal is used for accounts payable and general ledger activities.

About a dozen employees, few of whom had ever used a computer before, use the 250 system. Their ready acceptance of the 250 was a major factor in this company's decision to buy the HP system. Other key factors, according to Mr. Carver, were "HP's reputation for friendly, quality, state-of-the-art products and HP's marketing and selling philosophy, in particular its friendly, open, listening, knowledgable people."

In business for more than five years, Staodynamics has 85 employees and specializes in manufacturing prescription biomedical products, including trancutaneous electrical nerve stimulators used in physical therapy, and several other related devices. The company's stock is publicly held, and is traded on the over-the-counter-market.

The OEM software house which installed the HP-developed application packages at Staodynamics, and also is supplying some additional software packages, is Symbolics, Inc., of Denver, Colorado. Symbolics specializes in manufacturing and general accounting applications, as well as custom packages, for small business.

Staodynamics, in summary, is another happy HP 250 customer, is using OM/250, MFG/250, and now FIN/250, is experiencing rapid growth and is counting on the HP 250 to grow along with it. For further information on this account, please contact Lyle Bass, HP-Englewood.

Common Questions on Converting RPG II to the HP 300 (Part 3)

By Tim Haney/GSD

IBM S/34 to HP 300

Q: Regarding S/34 conversion, the 34 has extensions to the standard RPG language like Work Station Utility (WSU). Just exactly what is WSU and what are some of the other extensions that are available on the 34?

A: Screen Design Aid (SDA) designs data entry screen forms for multiterminal on-line processing. The SDA utility is similar to our FORMS/300 and Menu Mode, allowing program selection from a terminal, is one of the new HP 300 features. WSU is tougher to handle, few OEMs use it but for those that do we have no simple alternative at this time.

Q: What about this thing called Data File Utility, (DFU)?

A: DFU is a utility that allows you to do file maintenance without having to actually sit down and code an RPG program. You give it the definitions of the program and the file, and it does the rest for you. The HP 300 has a very similar utility and its even easier to use.

Q: With Screen Design Aid (SDA), and this DFU Utility, do we have anything comparable on the 300 that can be substituted?

A: Yes we do! FORMS/300 is a substitute for SDA and it allows you to design data entry forms for terminals. It works a lot like the SDA does. In fact, FORMS/300 is a little easier to use because it's not as sophisticated at this point as IBM's SDA. Customers using it now are extremely satisfied with it . . . there have been absolutely no complaints with the parallel between the two of them. You design and define a screen in half an hour using FORMS/300 and knock out most applications screens in a day or so.

As far as DFU is concerned, our DUTIL/300 utility provides similar capability.

Q: Now what about Work Station Utility (WSU)? Are there any unique features to either WSU or FORMS/300?

A: FORMS/300 is considerably easier to get up and running. On the other hand, FORMS/300 is somewhat of a "subset" of WSU.

WSU has a few things that we don't. As far as being able to define your screens, they give you a little more latitude in what they'll let you do. We still have the same kinds of basic I/O going to the screen: 1. input only fields, 2. output only fields, and 3. update fields, which is essentially the three things that you want anyway. However, make no mistake about it, WSU is a more powerful utility. If the customer makes extensive use of WSU we do not offer a solution at this time.

TI/O vs. RI/O (2649D) HP 250 Operation

By Charles Dixon/GSD

TI/O = terminal input/output
RI/O = remote input/output

Questions have arisen about the use and application of 2649D console terminal, versus the use of lower cost HP terminals, as HP 250 remote workstations. When helping a customer make this decision or when preparing quotes, consider the following:

1. **Application**—TI/O is excellent for short repetitive jobs. A 2649D (and RI/O) is the only alternative for softkey supported applications packages (i.e., FIN/OM/MFG) and utilities packages (FORMS and Report Writer).
2. **Programming**—Any 250 BASIC program will run on the 2649D. However, TI/O BASIC programs are interrupt driven and require the writing of a terminal sharing executive to handle terminal interrupts and time allocations. All terminal escape sequences must be handled by the TI/O applications program.
3. **Cost**—Assuming a 250 system is configured with additional memory and the asynchronous interface board, the cost per remote terminal using TI/O is cheaper due to the fact that the 2621 or 2645 terminal can be employed in a specific application.
4. **Memory**—Each 2649D has its own memory partition which can range from 32K to 64K, a TI/O application is limited to one system memory partition.

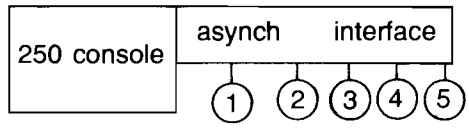


Figure 1.

For example, if a customer is planning to purchase a 250 to build, update and delete a large organization mail list, a 250 running under TI/O using 2621 terminals (Figure 1) may be the most cost effective configuration. In this application, the TI/O program would be running at the console and driving the five remote terminals. The terminal information would be programmatically transferred to a transaction file which would be used to batch update the mail list data base.

However, if the same customer desired to run FIN/250 (Figure 2) as well as the above application, a combination of 2649D's and 2621's would be the most cost effective solution. Remote terminals 1, 2, & 3 would be used to concurrently run AR, AP and GL while the TI/O mail list applications can be started up under *background* tasking and employ two 2621 terminals (port 4 and 5). The 250 console can be used for program development.

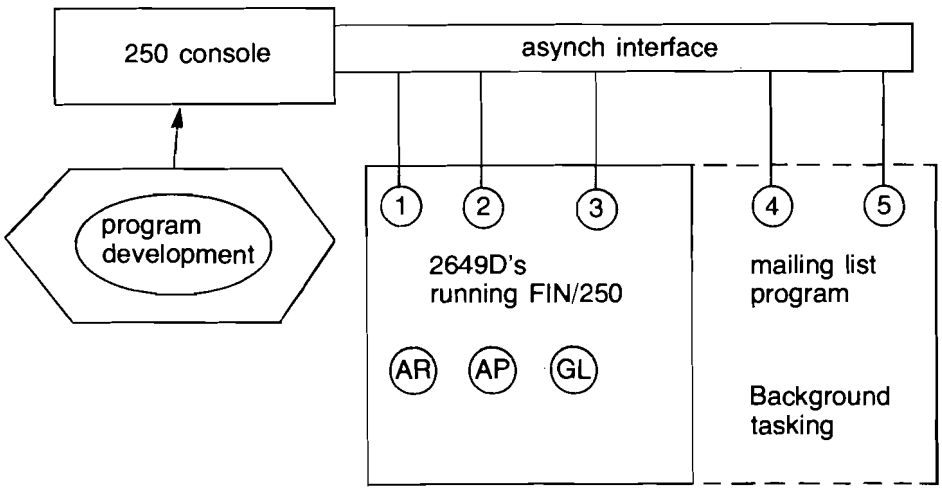


Figure 2.

Issues	TI/O	RI/O
Cost/terminals*	$1,500 and up	$4,250
Terminal types	2621 & 2645	2649D
Program application	Short defined tasks	All capabilities of main console. Program development for 250 applications packages. Operation of FIN/OM/MFG software packages
Programming procedure	Requires the writing of terminal sharing executive to handle terminal interrupts and time allocation	No change from standard 250 program development
Memory partitions	TI/O is limited to one system memory partition	One memory partition/remote

*assuming user has purchased additional memory and asynch interface.

MSP

Manufacturing Applications Sales Success

By Dick Knudtsen/GSD

Congratulations to Ed Quarnstrom of the Rolling Meadows office who, in July, closed six new orders for Materials Management/3000 from CBS Music. According to Ed, "Versatility in manufacturing systems is key to CBS Music because their operations range from state-of-the-art electronics to turn-of-the-century craftsmanship.

Materials Management/3000 has proven to be both comprehensive and flexible enough to meet CBS' range of materials management requirements."

Ed now has sold a total of 10 manufacturing application systems to CBS and Gould, Inc.

Congratulations also to Frank Callahan in Lexington for his continual success in selling Materials Management/3000. Frank has to date sold six different companies in the Boston area on the merits of using HP's Materials Management/3000 to manage their inventory.

Frank and Ed have found that *Materials Management/3000 Means Money* for them as well as for their customers.

Thanks from the Manufacturing Systems Program and wishing you continued success in selling HP's application solutions.

HP 3000

INP Cables Discountable

By Ron Fountain/GSD

Effective September 1, '80 all INP cables will be purchase agreement discountable on both the End-user and OEM discount schedules. Users will thus receive the same discount on INP cables as they would normally receive on purchases of other HP 3000 products. This change now means that all HP 3000 cable products are discountable.

Ordering COBOL Course

By Carol Ramsay/GSD

There are now two ways for your customers to order the new HP 3000 "Learning COBOL II" self-paced course:

1. Directly from Computer Supplies Operation (CSO) by calling the toll-free number (800) 538-8787.
2. Through their SRs who can order the course (P/N 22832A) from GSD (4700) (SRs receive commission on these orders).

Details of the course will appear in the new CSO catalog which your customers will receive in September.

CSP (Commercial Systems Pinewood)

TDP/3000 & DSG/3000 Customer Mailing

By Steve Zalewski/CSP

To assist you in acquainting your customers with our two newest software products — Text and Document Processor/3000, and Decision Support Graphics/3000, — we will be mailing to HP 3000 customers a product announcement and standalone data sheets. Customers should receive the information during the first two weeks in September.

(See the TDP/3000 article on p. 14.)

The software status bulletin mailing list is the source customer list. The TDP/3000 announcement will be sent initially to US and Canadian customers only.

If you have any customers who have been excluded or if you wish to verify that a customer has received a mailing, contact HP 3000 Sales Development.

Introducing Commercial Systems Pinewood

By David Townsend/CSP

Commercial Systems Pinewood is a new program within GSD that will concentrate on two product areas — Office Support Applications and Data Communications. In the short term, we are focusing our activities on the HP 3000 but over time we expect to cover the full commercial product line.

An interesting aspect of CSP is that it is in England, near our UK Sales Headquarters. Why are we locating part of GSD in England? There are several reasons. Firstly the UK is a rich source of software talent thanks largely to the several highly regarded computer science faculties in the UK. Secondly, with a small pioneering program like this we are able to focus much more quickly and accurately on specific segments of our marketplace. Thirdly, in keeping with HP's worldwide corporate citizenship objectives, we are eager to match geographic sales success with R&D investment.

Activities are moving at a very encouraging rate. We have seven UK engineers already established through GSD and HP labs, and one in Boeblingen, who have joined HP as part of CSP. On completion of their 18-month assignments they will be returning to the UK in the period January-July '81. Bob Kadarauch is the Manager of CSP and is already in the UK and four other GSD people are joining him for the first 18-24 months of operations. European recruitment is also in progress and we expect to have 20 R&D engineers and eight Marketing professionals by November '81.

Our first product, Text & Document Processor/3000, will be on the price list September 1 — not bad for a program which officially began on June 1. Our office application product line will be expanded through '81 by further Word Processing developments and also in the area of Electronic Mail. We have worldwide R&D and Marketing responsibility for these products and also for our future, CSP-developed European data communication software products. In addition, we will assume responsibility for European localization and support of present and future data comm products from GSD.

CSP will obviously have close links with Boeblingen, Grenoble and Queensferry — not only with the 3000 program in mind but also to provide leadership in developing an overall European data communication strategy.

As Marketing Manager for this new venture I'm excited about the contribution our European resources are making towards the continuing success of HP Computer Systems.

DTD

2647A — Revision E Basic/Multiplot Tape

By Aler Morgan/DTD

Data Terminals has just released Revision E (Date Code 2030) Basic. We will ship this with all the 2647A's beginning late August. To update the field we are sending out Revision E Basic Software through SDC via the Field Distribution Service.

So those of you on the DTD SE, CE, or TSE data base will receive this tape. If you're not on the data base at the Software Distribution Center (SDC); ask your manager to get the order form from Jeff Nagel at SDC and sign you up now. If you are supporting terminals, you should be on DTD's Subscription Service at SDC.

We feel the Subscription Service is what you've been asking for. Take advantage of it and automatically receive your personal copy of the 2647A Basic Tape (Rev. E) (and all new manuals and software revisions as appropriate).

2626A: Biggest New Product First Month Ever!

By Rich Ferguson/DTD

The July sales statistics are in and the 2626A terminal has turned in the best first month sales statistics ever at DTD.

The final results were about double what we had projected for the first month sales volume. And the distribution of sales appears to be about 50/50 between commercial and technical applications. We at DTD want to thank you for your splendid efforts in promoting this product to our customers.

2626A With the A242A Modem

By Jill Glashow/DTD

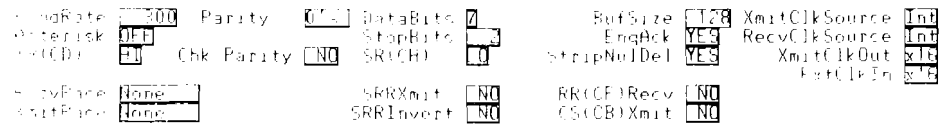
There have been some compatibility problems interfacing the Anderson-Jacobson A242A modem with the 2626A. If you are using the standard full duplex modem configuration and modem cable, a conflict of signals arises, resulting in the modem's transmitter hanging up.

There are a number of solutions to circumvent this problem, including:

For Use With Data Comm Port # 1:

1. The 13222Y cable may be used for this connection since the A242A modem and the 2626A do not need any other control signals except the three pins specified on the cable to operate properly. However, there is a restriction concerning the data comm menu, the full duplex hardwired menu must be used. The reason for choosing this menu is to allow the user the ability to set the CB (CS) line (see menu listing below). The full duplex modem menu does not allow the user to change the CS (CB) line which has been permanently set to yes (i.e. enable). The baud rate must also be changed and set to 300. Otherwise, all other variables can remain at their default configuration values.

Full Duplex Hardwired #1

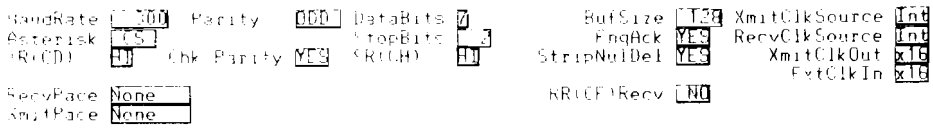


2. If your customer is using the 13222M or N cable, the full duplex modem menu may be used. No changes to the default values are necessary to transmit signals. However, the A242A modem does not use the RS-232 connections in the standard manner which causes a conflict of signals on pins # 23 and # 24. Consequently, these pins must be cut somewhere between the terminal and the modem.

For Use With Port # 2

1. If you are using the 13242Y cable, the full duplex hardwired menu must be used again. Refer to the configuration stated previously for Port # 1 full duplex hardwired menu using the 13222Y cable for the appropriate settings.
2. If you are using the 13242M or N cable, the full duplex modem menu may be used. Only one change has to be made to the default configuration. The change involves the SR (CH) field which specifies the desired state of the RS-232 SR line when the terminal's power is first turned on or when the terminal is reset. The SR line, RS-232 pin # 23, is defined as the data signal rate switch (DTE-Data Terminal Equipment). It is normally used on dual speed modems to select the appropriate speed (signal speed modems merely ignore this line). Setting the valve HI on your data communications configuration menu has the same effect as cutting pin # 23. Port # 2 does not output any signals on pin # 24 so no problem should arise.

Full Duplex Modem #2



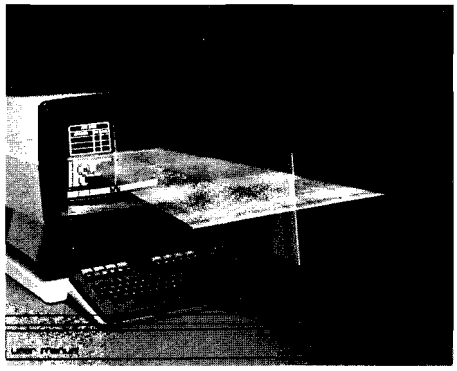
The engineering group of Anderson-Jacobson is aware of this problem and plans to fix it in their next generation of modems.

If any problems occur, please contact your DTD Sales Development Engineer.

SASsy Graphics

By Gene Lee/DTD

A new software package on the market from SAS Institute (Statistical Analysis Systems) called SAS Graph will drive HP graphics terminals, the 2648 and the 2647. It will also drive the 7221 plotter, and I'm told they're working on the 9872. SAS is a software house out of Raleigh, North Carolina. The package runs on large mainframes, mostly IBM, and already has been installed in many large companies. So if you hear the term SAS, it might be a chance to sell some terminals and plotters.



HP 2626A User Manual

By Eric Grandjean/DTD

The 2626A User Manual (P/N 02626-90001) is now available. This beautifully illustrated manual gives a perfect overview of all operational functions available in this new powerful terminal. Order one now for your personal or office library. For additional information, competitive overview, sample configurations, etc., order the 2626 Field Training Supplement, (P/N 5953-2039). This HP Confidential Manual will give you additional insight on the why's and how's of the 2626A.

The 2626A Reference Manual (P/N 02626-90002) is almost complete and will be ready in time for our first customer shipments.

2626A Applications Program

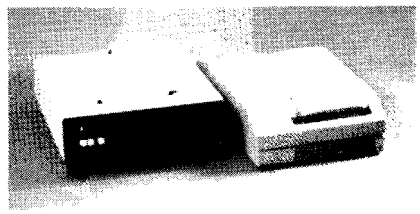
By Linda Lazor/DTD

Congratulations on the great job you've done in selling our new 2626A terminal! Due to the unique features of this product, it will be useful to further establish the marketplace and applications into which the terminal is being sold. To fully realize 2626A sales potential, we are requesting your feedback via the completion of a 2626A Application Survey. This form will be sent out as a mailer to each SR with a multiple unit order. It is easy to complete and send back — no postage or return address necessary.

The survey is intended to get information about customer applications of the product, the marketplaces into which the terminal is being sold, and *your* perception of the selling features of the 2626A. The benefits of the program are:

- to provide applications documentation which can be returned to you
- to better promote the 2626A, and
- to influence the direction of future product development.

We appreciate your support of this program and look forward to the continued success of 2626A sales.



Get the Big Picture (Dumped) From the 2648A

By Gary Borders & Ed Washington/DTD

Option E76 on the 2648A offers increased raster dump capability and HP-IB display enhancements output.

Presently, if a 2648A graphics drawing is dumped to the 9876A printer, the right-hand portion of the image is lost. This is because the raster contains more dots per line than the printer head of 9876A can print.

The E76 option allows you to rotate the raster output by 90 degrees so you will have a complete raster image. The rotated dump will operate with all of HP's HP-IB printers and is in addition to the normal raster dump capability.

The new ROM will also provide the capability to expand display enhancements into their corresponding escape code sequences. This allows HP-IB printers like the 7310 to use inverse fields, alternate character sets, etc. The E76 option will be available late August and may be ordered by specifying device number 13296A opt. E76. When ordered, the E76 ROM will replace the standard HP-IB driver ROM.

Peripherals

Boise

OCR-A Character Set Available on the 2619A

By Jim Skog/Boise

A 64 character set of OCR-A is now available as special option H19 on the 2619A. The OCR-A option will cost $750 and run at 1000 lines per minute, just like the standard 'Gothic' set it would replace.

OCR stands for Optical Character Recognition. Machines that can read these letters and numbers are called optical character readers. OCR-A is a character set of machine readable numbers and letters that look like the numbers on the bottom of your bank checks. Applications for this character set include use in the banking, financial and insurance industries. OCR can also be used by governments and schools for various text reading and financial applications.

OCR-A is not as easily read by people as OCR-B, which can also be machine readable. OCR-B character sets are available in 64 and 96 character chains for the 2619A, options 002 and 003 respectively. OCR-A and OCR-B character sets are also available on the 2631A and 2617A drum printers.

Print samples should be checked for compatibility with readers before ordering. To obtain these print samples, or for more information, call your Boise Sales Development contact.

New Peripheral Group Neophyte Program

By Scott Wald/Boise

The Peripheral Group (Boise, Disc Memory, Greeley, and Vancouver Divisions) is now offering a combined Neophyte Training Program. Our new program replaces discrete division presentations. It is held on the Boise Site.

The new program is organized around the marketplace. Following a Peripheral Group Overview the program is divided into Mass Storage (all discs and magnetic tapes), work station printers, and system printers.

Each "module" includes a technology overview, product presentations, summary, and an open question and answer forum with division management. Intermixed are presentations introducing field contact personnel.

Our new program presents HP peripherals in a manner consistent with marketplace vitalization. It has been developed in response to your comments, so let us know your reaction.

New 263XB Manuals

By John Pettinger/Boise

We have a 'Hot Flash' from Boise Division! This is not to be confused with the 'Hot Flash' from Mt. St. Helens which, as you know, is in Washington, not Idaho.

Effective immediately, the following new documentation is available for our customers and support organization:

- 2631B Operator's Manual, P/N 02631-90917
- 2635B Operator's Manual, P/N 02635-90908
- 2630B Family Pocket Guide, P/N 02631-90921
- 2630B Family Reference Manual, P/N 02631-90918
- 2630B Family Service Manual, P/N 02631-90919

If you need any of this documentation, or would like extra copies, contact Computer Supplies Operation, Bldg 77C, 1330 Kifer Road, Sunnyvale, California, 94086.

DMD

7910 Winchester Disc Drive — Shock and Vibration Test Results

By Gary Lyons/DMD

The recent completion of shock and vibration tests for a single 7910HR fixed disc drive delivered results which compared favorably with those of the field-proven, rugged 7906 disc drive. The tests, performed at the DMD factory, provided an insight into expected performance capabilities in an environment where the disc would be subjected to possible shock and/or vibration.

Vibration tests were conducted in an operating mode over a frequency range of 10-2500 Hz for each of the three axes. The disc exhibited the ability to operate at a level of .75 GRMS for 20 minutes without any soft errors; above this GRMS level, soft errors occurred with correction in a single re-try.

Similar to the vibration examination, the corresponding shock tests were conducted in each of the axes while the disc was in operation. As with the 7906, the 7910 handled a series of six G impacts in a single axis without experiencing any hard errors. While soft errors did occur, correction was completed in a single re-try.

As indicated earlier, these results coincided with those of the 7906. However, please note that DMD has not yet accumulated sufficient field documentation with regards to the ruggedness of the 7910 as we have with our 7906. Moreover, the data and conclusions are drawn from a one-time, single unit test and should never be interpreted or construed as a specification to be quoted to the customer. These test results have been provided for your information and reference. Should you require additional details, please contact your Sales Development Representative.

Greeley

★Graphics Tablet Software Available for the 9845B

By Rosemary Kramer/Greeley

Not since the introduction of System 45B's graphic presentations software will such a lasting impression be made on your graphic customers.

The new 9111A Graphics Tablet from Greeley Division offers three interactive graphic utilities — drawing, editing and menuing — that get your hands in on the act and make System 45B's graphic capabilities come alive. And to show you just how, a dynamite demo is on its way to your DM's office now.

Cornerstone for creations

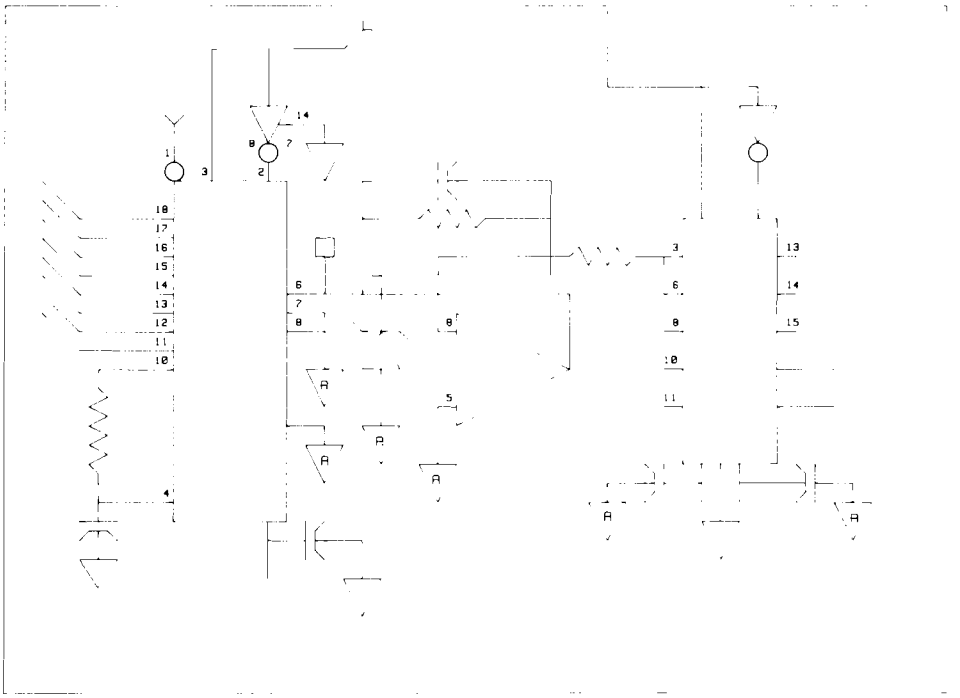
The 9111A software pack helps lay the groundwork for a multitude of interactive graphics applications.

The *drawing program* is the first building block. Designed to be so simple to run, almost anyone can sit down and with a press of the stylus pen have access to immediate, high-impact visuals. Let your customers convince themselves.

In single mode, press two points and a line appears; opposite corners and voila, a rectangle; three points produce an arc; or indicate the center and cirumference and presto, a circle. In continuous mode, take advantage of freehand art, or trace existing documents.

Such simplistic operation does not sacrifice precision. A special "snap grid" function serves as the ol' eagle eye. Points entered match up and align perfectly assuring the exact same size for all entries.

The 9111A's drawing capability adds that much more "pzazz" to the bar, pie and line charts of the System 45B. Now you can draw a picture, add text, create a data base to update and plot whenever you choose.



Sample schematic created with the 9111A/9845B Graphics Tablet Utilities.

With the same ease, the *graphics editor program* performs even more complex graphic functions. Using elements created with the drawing program — electronic symbols, office furniture, production equipment — you can compose entire designs. Schematics, floorplans, flowcharts are among the projects that can be easily designed then changed repeatedly, without hassle.

You can select an element then place it, move it, rotate or delete it. Or take the entire drawing and scale it . . . zero in on a portion to enlarge or reduce. Or pan across the entire drawing.

The 9111A's *menu program* provides everyone the keyboard of his/her dream. You define what represents each of the 16 softkeys then enter data or control an entire program by pressing the stylus on the appropriate area. You don't have to bother with x,y coordinate analysis. You don't have to be an experienced programmer. If you need additional softkeys for more entries, the menuing program can convert the entire tablet into a menu keyboard. And you can order and group your entries to suit your individual needs. The menu itself can be drawn and plotted using the drawing program.

The software demo pack, along with demo unit and Field Training Manual, are on their way to your DM's office. You'll find two tape cartridges that demonstrate the software, plus the menus necessary to run the program. Don't keep your customers waiting. For five times the speed, five times the impact, transfer the demos from tape to your floppies. Instructions are included.

*A note of caution: The demo is based on the software. Copying the demo for your customers is giving him/her the software. So please, *do not* copy it.

The HP 9111A Utility Software for the System 45B can be ordered as P/N 88100A for $500 (US). Graphics tablet software for the 9845C is scheduled for December.

San Diego

7245A to B Upgrade Program Discontinued

By Bill Loeber/SDD

Due to the low volume and high costs of soft platen upgrades for 7245A Plotter/Printers, the program for field retrofits has been discontinued. If one of your customers requires an upgrade, send this request to San Diego Division, Attention Factory Repair Supervisor, for an individual quotation. For further information or technical assistance, contact Carol Kay Dunham at SDD, (714) 487-4100, Ext. 568.

Higher OEM Discount For 7225A Plotter

By Sue Ott/SDD

Effective September 1, '80 the 7225A "miniplotter" will be available under the CMG purchase agreement discount schedule OEM "A" on Exhibit A-4. Remember, the OEM "A" discount schedule is 5% higher than the OEM "B" schedule at every price break, making the 7225A even more attractive to your OEM customers as a hard-copy graphics peripheral. The change to OEM schedule "A" applies only to the 7225A and its associated Personality Modules. The other graphic plotters from San Diego will remain under the OEM discount schedule "B".

Recommending PLOT/21 for Various Systems

By Greg Elmassian/SDD

PLOT/21 (P/N 72021B) is currently available for the following systems:

HP 3000 series, DEC RT-11 (PDP-11 series), and the GE Timeshare network. If your customer has a system other than these (as per the data sheet), here are a few guidelines to help you.

For other DEC systems:

RSX-11M operating systems: sell the DEC mag tape (options # 008 (800 bpi) or #009 (1600 bpi). The customer should be able to read the tape with the FILEX utility. The software will take little or no modification.

RSTS/E operating systems: this is an unknown quantity at this point, we anticipate a small effort on the part of the customer based on past experience. Same software recommendation as for RSX-11M.

DEC MINC systems: *Do not*, repeat *do not* sell an RS-232 plotter to these systems. Apparently there are many versions of this system around, and they are very sensitive to *any* plotter in series with the operators console. Recommend a 9872B/S for their IEEE/HP-IB port.

Other operating systems: These are usually found on the VAX-11-780 systems. Use either the DEC tapes or the HP 3000 tapes according to the abilities of the customer to read the respective formats. (Refer to the data sheet). We have had good success with the VAX systems to date.

For IBM systems: Sell the HP 3000 tapes. If the customer is able to output ASCII to the plotter, he should have the ability to read the ASCII tape. Once the customer gets over the difficulty of being able to output all the required ASCII characters for the 7221A/B/S, the implementation of the software has been historically easy.

For all other systems: Sell the HP 3000 tapes. We have had good success with Data General, Prime, Burroughs, etc.

Remember: For *any* system other than those on the data sheet, be sure to give your customer a current copy of the PLOT/21 Software Conversion Guide AN 229-1 from San Diego Division. This guide covers: how to set up the software for full or half duplex, what characters are required for operation, and all possible problems your customer is likely to encounter. It answers 90% of the typical questions commonly directed to the San Diego Sales Support Group. If you have any questions or problems on a specific implementation or system, call your friendly SDD RSE (Regional Software Expert).

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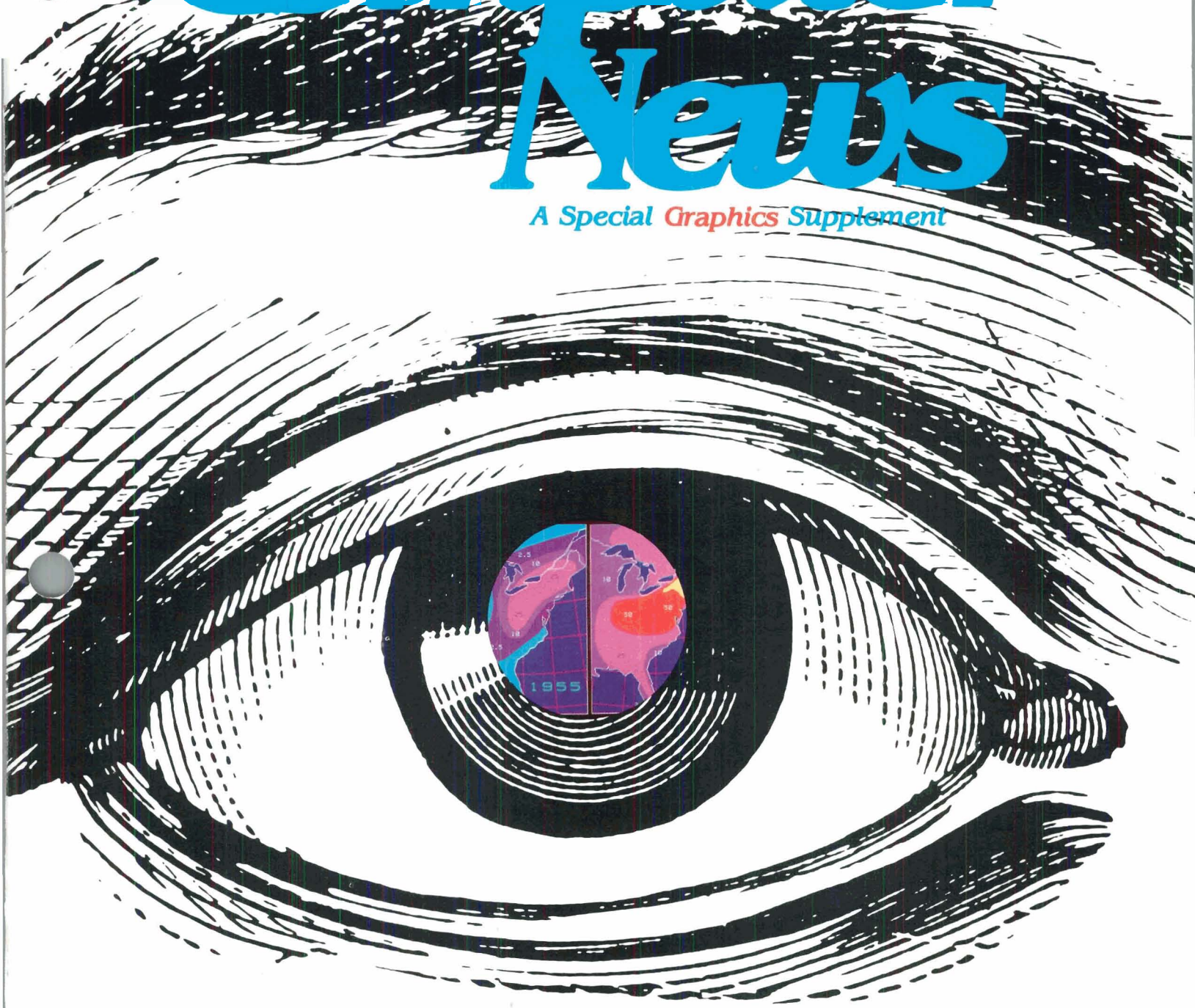
For HP Field Personnel

September 1, 1980

Computer News

A Special Graphics Supplement



Graphics:

A capability guide on data display, dynamic simulation and interactive design.

For Internal Use Only

Computer News
Special Insert # 1
Sept. 1, 1980
Vol. 5, No. 20

On the Cover

The immediate visual impact of graphics makes this a powerful and effective method of conveying information.

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Scope of this Guide

This special insert to *Computer News* represents the HP Graphics Task Force's first effort to present timely information on the subject of HP Computer Graphics. During the next few months, you will receive a number of short, informative publications that will help you better understand our current and future graphics product offerings. This first publication concentrates on our hardware and software strengths in the computer graphics market today and describes the strong synergistic relationship that graphics provides within our target markets and applications.

HP Graphics Message

Computer Museum

FROM: Paul C. Ely

TO: Technical and Business Computer Sales Force

Hewlett-Packard's growing computer graphics capabilities have enhanced our technical and commercial computer systems offering by giving customers exciting new ways of analyzing and communicating computer-generated information. Graphs, diagrams and images help computer users quickly understand complex data relationships, analyze computation results and identify trends or deviations from projections. HP's broad range of technical and business graphics capabilities give us an opportunity to merchandise graphics and thereby leverage our overall systems sales.

Graphics — Increasing User Productivity
As we introduce new HP graphics products, we will continue to emphasize graphics as an important means of increasing user productivity and customer satisfaction. We feel computer graphics is not just a gimmick.

Our graphics strategy may be viewed in three time periods:

Now
At the present time, HP has a number of Computers, Terminals, and Peripheral products, each with significant graphics capability. We see these products as loosely coupled, plug-together components; but our customers regard them as systems.

Next
We must provide the systems and marketing coordination to present an overall graphics system capability to the marketplace. This strategy is now evolving with the introduction of new products such as the 9845C Color Graphics Desktop Computer, the 9111A Graphics Tablet, GRAPHICS/1000 and DSG/3000. These systems have significant graphics system features and provide a friendly interface to the user to help him make decisions, understand data relationships and display images.

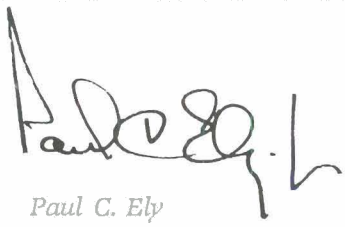
Future
The future will be highlighted by the second generation of graphic desktop and minicomputers, terminals, peripherals and, very importantly, firmware and software that is focused on Design Graphics and graphical Data Base Management. Additionally, our increased emphasis on graphics will yield a broad range of graphic input devices, hard copy peripherals and applications software that will increase the productivity of our customers.

The strength of HP's computer graphics today is realized through the inclusion of graphics capability in an increasing number of peripherals and systems plus graphics application tools such as AGL (A Graphics Language). Several new graphics products that are on the horizon will further enhance this position during the next few months.

Our plan is to continue to merchandise graphics through advertising, sales promotion, seminars, and through your personal selling. Graphics as a feature product is at least as important as Data Base Management and Distributed Systems in its ability to establish HP's leadership as the "manufacturer's computer company."

I encourage you to use the information in this booklet plus the power of our graphics product offering to leverage your business and technical computer sales at every opportunity.

Regards and Good Luck In Your Selling Efforts,



Paul C. Ely

HP Graphics Marketing-Merchandising

The HP Graphics Marketing Task Force

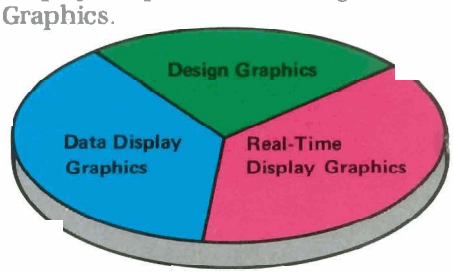
L to R: back — Bruce Woolpert/SDD, Ralph Krelle/DCD (guest), Gene Lee/DTD, Pete Hamilton/DCD, Jutta Kernke/GSD, Corley Phillips/DSD, Bonnie Dykes/DCD, front — Karl Kiefer/Englewood (guest), Rick Stahlin/DCD, Charlie Baker/Colorado Springs, Walt Fischer/Colorado Springs, Jack Huffman/DCD.

The HP Graphics Marketing Task Force was formed at the request of the Computer Groups' Marketing Council. Its mission is to develop short-term tactical programs that will maximize HP's graphics image and leverage Computer Groups' orders. The objectives are to:

- Develop HP's graphics marketing strategy
- Leverage HP's graphics merchandising
- Coordinate Factory/Field communications on graphics subjects
- Merchandise configured graphics systems.

The Task Force is made up of representatives from DCD, GSD, DSD, DTD, Colorado Springs and San Diego Divisions. The graphics merchandising strategies and tactical programs developed by this group are highlighted in this section.

One of the functions of the Task Force is to define the various graphics markets. As we see it, there are three basic computer graphics markets: Data Display Graphics, Real-Time Display Graphics, and Design Graphics.



Data Display Graphics is characterized by the term "chart graphics". It is the display of business and technical data in graphical form to facilitate interpretation and analysis. HP's graphics hardware and software development has focused on the Data Display graphics market because of its importance in "traditional" business and technical applications areas for HP computers. By providing an alternative way for users to present their data, graphics makes our current computer offering more useful and increases user productivity.

Real-Time Display Graphics is characterized by picture graphics and is frequently associated with modeling and simulation. This market is more technical than business in its orientation. Real-Time Display Graphics has many similarities to Data Display but it is dynamic and produces a new graphical representation (picture) as conditions change or new data is received. It is frequently transducer driven. Examples of Real-Time Display Graphics are Radar/Sonar, process monitoring and flight simulation.

Design Graphics can best be described as the "conceptualization, design and dimensioning of objects". It frequently involves CAD/CAM applications and is focused in large manufacturing companies. The largest concentrations of Design Graphics applications are in the areas of PC/IC layout and mechanical design.

The conclusions we want you to reach from reading this Guide are:

1. HP is a leader in Data Display Graphics.

HP's graphics strategy currently stresses the Data Display applications area with a substantial investment in graphics software development and graphics peripherals.

To date, our graphics software and peripheral offerings have focused on making it easy for users to produce graphics from computer-stored data and generate charts and diagrams at the lowest possible cost. By offering our products with these graphics capabilities, we can substantially improve the effectiveness and usefulness of our computers, and, at the same time, make our customers more productive.

2. HP has a long-term commitment to computer graphics.

While our graphics hardware and software products have concentrated on Data Display uses, HP's future graphics capabilites will include new products for Real-Time Display Graphics and Design Graphics applications.

3. HP business and technical computer field personnel are successfully selling HP's graphics capabilities.

In the past few months, many useful graphics sales aids and promotion tools have been created for your use. These tools are outlined in this publication.

During the next year, the Graphics Marketing Task Force will coordinate a merchandising program to achieve the following:

Phase 1

Increase the visibility of HP graphics capabilites in the marketplace. Indicate to our prospective customers the beneficial effects of graphics on business and technical productivity. The interdependence between graphics and productivity improvement will be a central theme of this promotion.

Phase 2

Continue to integrate systems and provide marketing coordination that results in presenting an overall graphics systems capability to the market. Some of the projects that will help accomplish this are:

- A Technical Graphics Brochure (4th quarter, '80)
- Business and Technical Graphics Seminars (3rd and 4th quarters, '80)
- A Graphics Overview presented in the Technical Products Training sessions (beginning in 4th quarter, '80)
- A Graphics Capability Advertisement (1st quarter, '81)
- A Configured Graphics System Offering (1st quarter,'81)

Also, we know that you are facing an increasingly competitive graphics market. You must be "armed" with data on the advantages of HP graphics products. To help you in this area, we are reviewing the Field Training Manuals distributed by HP Peripherals and Systems Divisions to ensure that you have the current information on competitive offerings. It has been suggested also that we collect all this data and publish it in a single document. Let us know if this would be helpful. In the meantime, be sure to contact your Sales Development people for competitive information.

In summary, the HP Graphics Marketing Task Force is working to focus the marketing efforts of the involved divisions, increase the visibility for HP graphics products and provide the merchandising tools you need to sell HP graphics capabilites.

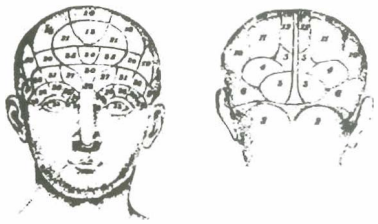
Let's put HP graphics to work to sell computer systems!

Graphics: The Human-Computer Interface

The Human Graphics Processor

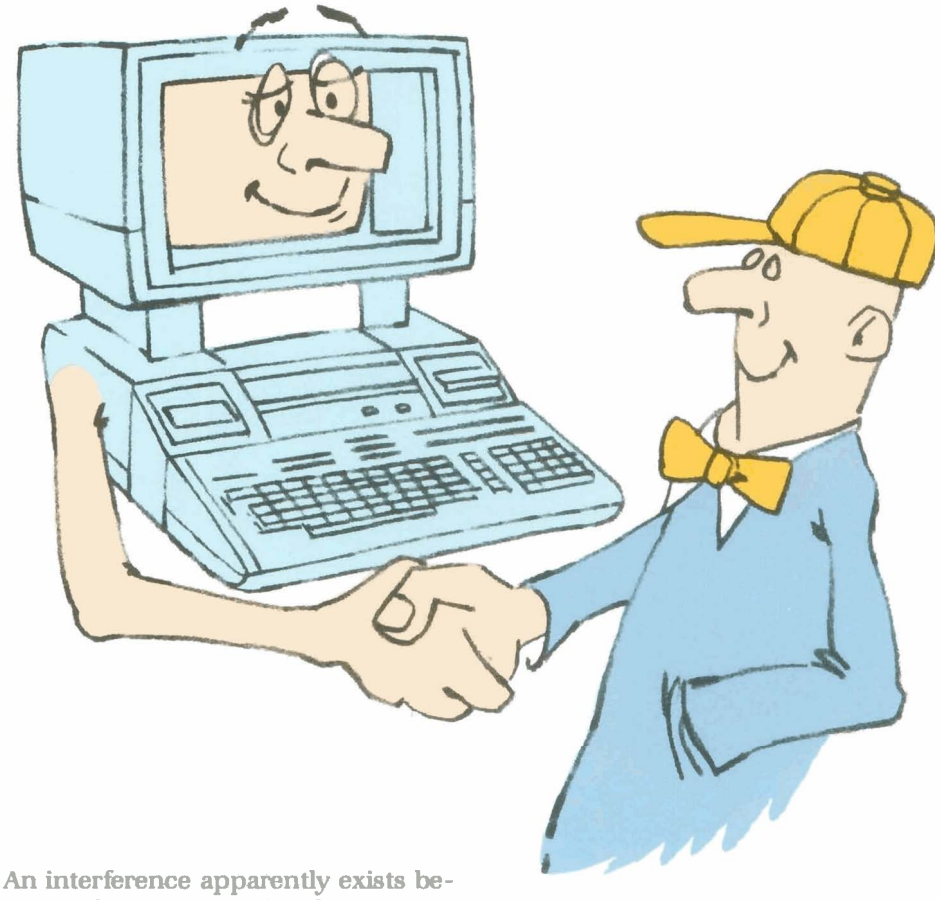
The power of visual information has been recognized since cavemen began drawing pictures on cave walls. Confucius' famous quote about a picture being worth a thousand words is taking on dramatic significance today as modern research on information processing in the human brain shows that a picture is probably worth more than a thousand words.

While computers may be ideally suited for an alphanumeric interface, a study of neuro-psychology indicates that the human brain may more effectively utilize a graphical format. The two distinct cognitive modes each of us has—symbolic/sequential mode and graphical/parallel mode—process information differently and make widely varying use of the visual channel capacity.



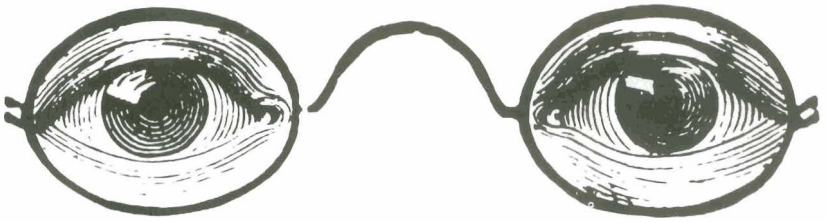
The symbolic/sequential mode (verbal and written language functions, mathematical skills and other operations that involve logical manipulations and interpretation of symbol data) makes minimal use of the visual channel capacity.

The graphic/parallel mode (ability to recognize faces and scenes, visualize spatial information and recognize patterns or inter-relationships in graphical data) makes much better use of the visual channel capacity hence, we quickly ingest and analyze graphical data.



An interference apparently exists between these two modes that may affect our interpretation of alphanumeric computer data. Researchers have found that once a mental visualization of a spatial object has been formed in our mind, reading a written description of that object causes the visualization to be "erased." This may explain why we find it so difficult to visualize trends, patterns and interrelationships when reading tabulated numeric data. Reviewing the tabulated numbers to verify a possible pattern tends to further suppress any visualization that may have been formed.

Presenting the same data in a line graph format, however, makes trend and pattern information instantly understandable and it completely avoids the "interference" problem.



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Improving the Human-Computer Interface

It is the human capability to rapidly process visual information that makes graphics such an important interface to computers. The use of pictures and graphs to present data provides concise visual information on trends and relationships which are not immediately evident from the numerical data. Interactive graphics allow computers to be used for design tasks by making it possible for the designer to visualize the object and then modify it—forming a close user-computer interface.

The power of graphics to improve the human-computer interface has lead to a great deal of interest in the computer industry. According to several industry journals (including *Business Week*), computer graphics is one of the world's fastest growing markets. Sales of all graphics peripherals, software and systems are estimated to exceed $1.5 billion in 1980. This market is now growing at a rate of more than 25% per year. Advancing technology is bringing more and more powerful computational tools to applications ranging from inventory control to automated drafting and beyond. And as these tools become less and less expensive, they are becoming generally available to a wider variety of users, many without a background or training in computers. As this process continues, a simple and efficient interface between the user and the computer becomes increasingly important.

The addition of a graphical data format for both input and output functions can provide major improvements in the efficiency of the human-computer interaction. An effective data format should make maximum use of the inherent human data channels and mental processes. The traditional alphanumeric format consisting of printed text and numeric tables involves a data input rate of perhaps 50 words per minute (wpm) for a good typist and an output rate of about 600 wpm for the average reader. On the other hand, analysis of the visual process in humans yields an estimated visual data capacity of about 40 million wpm!

Clearly, while alphanumerics may prove useful in some operations, this data display form uses only a small part of a human's processing capability. To fully utilize this ability, an ideal computer system needs both alphanumeric and graphic capabilities. Any human problem-solving activity involves both cognitive modes and the need to analyze and communicate both symbolic and graphical data. A computer system that provides both data formats simply reflects the internal "architecture" and operation of its human counterpart.

(Special thanks to Marv Patterson, San Diego Division, for his research for this article.)

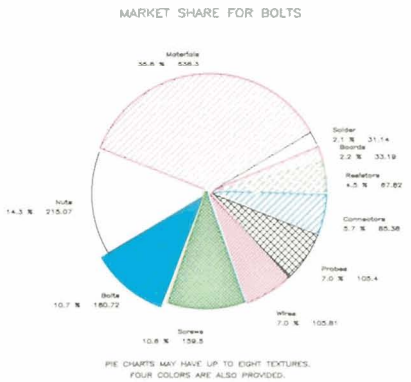
Data Display Graphics

Displaying Business Data

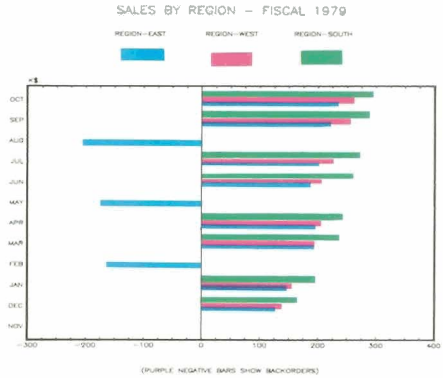
In one division of a large manufacturing company, the accounting finance manager was responsible for the preparation of a "graphics portfolio" or report. This report contained all the data needed by the executive officers to track actual performance vs. planned levels of key variables: net orders, net shipments, order backlog, inventory control, warranty expense, etc.

Previously, this information was presented as rows and columns of numbers i.e., a stack of computer printouts. Occasionally, a manager might ask for a graph to be made, but this was infrequent since it had to be drawn manually (and usually quite crudely) or sent out to a commercial artist (at considerable expense).

Now, with an HP 3000 and its DSG/3000 software, this manager can access data that can be displayed in a graph in minutes or he can produce a complete graphical report using HP's S-model paper advance plotters.



This method of management reporting and strategic analysis has become very popular because it allows executives to quickly identify where potential problems exist without having to wade through quantities of numeric data and calculations. And, if the manager needs an overhead slide of the information to present to a large group, he can create one using HP's four-color plotters.



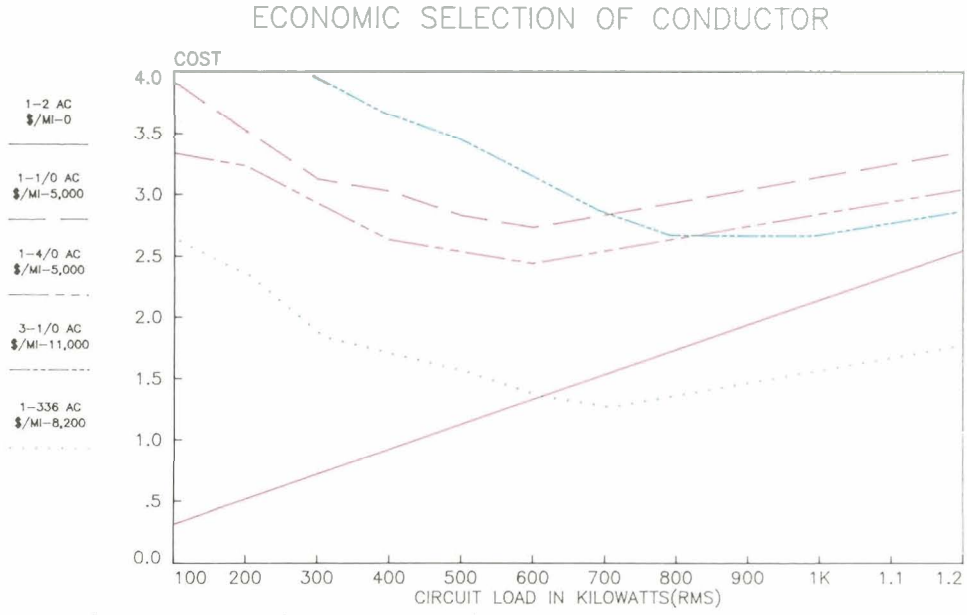
Many managers are so impressed by the graphics capabilities and ease-of-use of this system that they get involved in the preparation of reports themselves. The division marketing manager in this same company has found graphs so useful that he is planning to use graphs to compare the sales of each of multiple product lines by geographic regions. Other departments are also going to use graphics to display freight costs, expense accounts, R&D budgets as well as to portray the aging of receivables, the size of inventory and their cash position.

A Powerful Door Opener In Data Display

A power engineer for a northeastern electrical cooperative power company is using an HP 2647A Terminal to perform conductor analyses on the company's electrical network. He wanted to use his collected data to show the relationship between circuit load and annual costs for various conductors. The engineer had a limited background in programming but had little difficulty using the HP 2647A and the AGL graphics extensions. Now the terminal is used on-line with a DEC Computer to provide data transfer operations.

Prior to the purchase of the Terminal (and 7245A Plotter/Printer), this work was done by an outside consultant firm at considerable cost.

The customer is so satisfied with his current HP hardware that he plans to buy an HP 1000 Computer.



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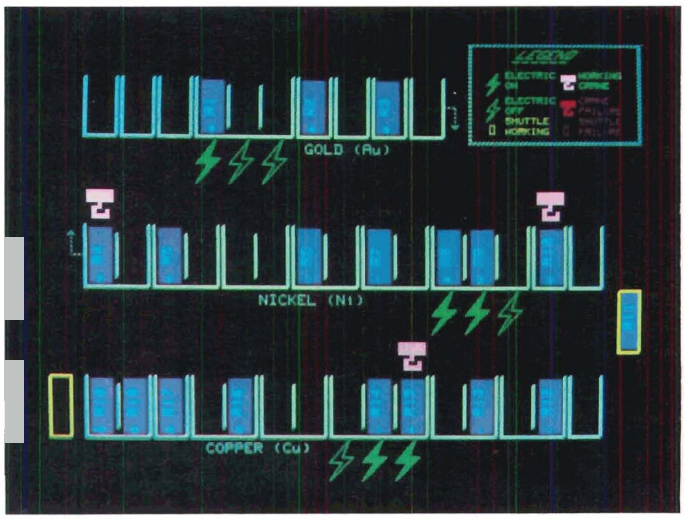
Real-Time Display Graphics

High Speed Radar Tracking

A supplier of radar tracking systems for air defense is configuring its systems with an HP 1000 Minicomputer system consisting of the HP 1000, two 1350 Graphics Display Translators and a 1321 large screen display. This very complex application requires large amounts of data to be converted in real time to high resolution graphical output. The system must track as many as 2,000 moving targets represented by many graphical symbols. Several hundreds of these targets are accompanied by textual information that must move with the target. This company chose HP computer graphics products because they could provide the high-speed, high-resolution displays required, and represented the most economical solution — saving more than $50,000 per console over the cost of an alternative system.

Monitoring The Plating Line

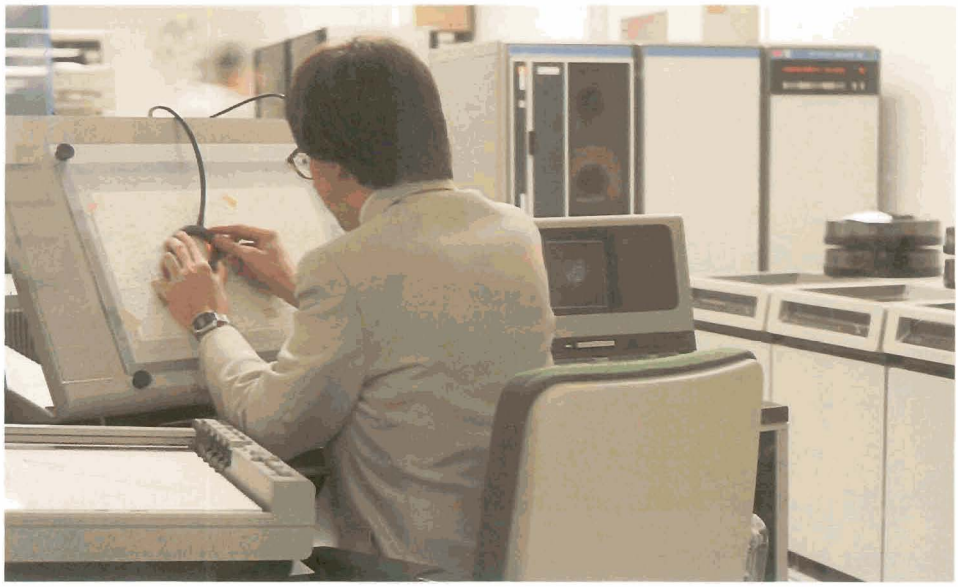
A large electronics firm uses an HP System 45 Color Graphics Desktop Computer to automate and monitor the copper, nickel and gold plating of printed circuit boards. Various sensors and controls are hooked to the desktop computer and the system's CRT graphically displays all the tanks and positions of all hoists and racks in real-time, as they move. At a single glance, the line operator can see the status of such things as fluid levels, the length of time it takes for each process, crane movement and electroplating activity. The use of color in the display speeds the user's interpretation so trouble areas can be spotted immediately. The increased efficiency due to the desktop system has nearly doubled the output of the plating line.



Design Graphics

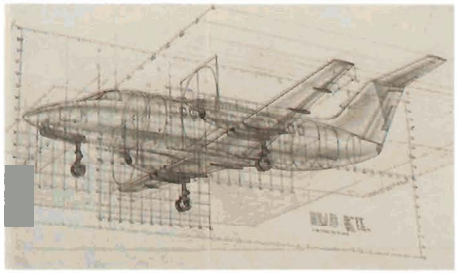
"Digging In" With Graphics

An HP 1000 OEM provides a system to customers that helps civil engineers determine the cut and fill volumes for earthwork and excavations. An HP 2647A BASIC program is used "off line" from the HP 1000 to capture data points from an HP 9874A Digitizer showing the existing and proposed terrain. The data files are then transferred to the HP 1000 for further editing, verification and calculation of volumes. The HP 1000 outputs the drawing to a large bed plotter. The system reduces the time necessary to calculate cut/fill volumes and cuts the time required to output a finished drawing from several weeks to a few days.

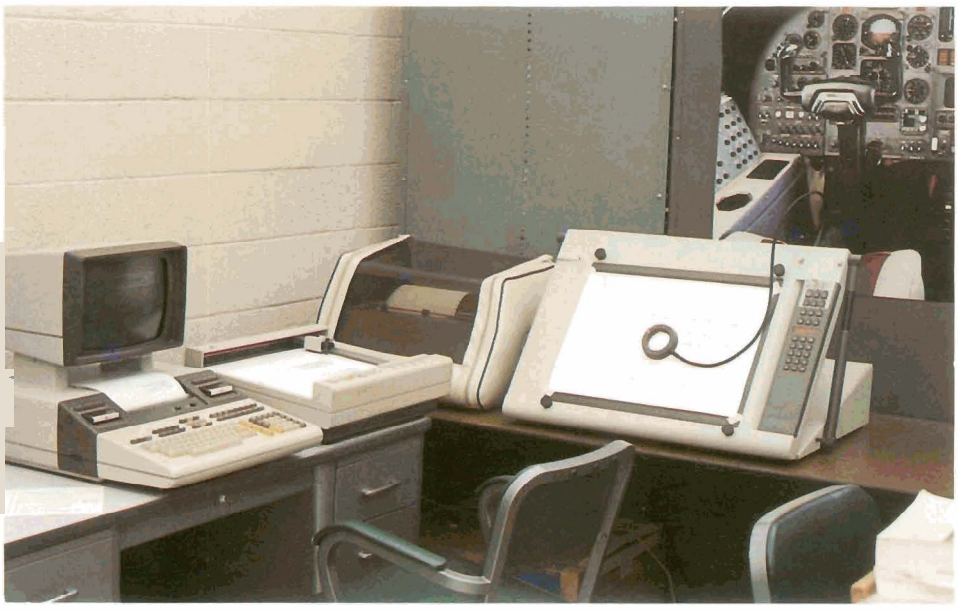


Getting Off The Ground With Graphics

A light aircraft manufacturing company uses two HP Desktop Computers in its advanced design department. In one application, aircraft designers use airframe and interior design drawings of each of the com- aircraft types that are input to the desktop system by an HP Digitizer. These drawings are used in design change feasibility studies e.g., what airframe and interior design changes would be required to add another passenger seat? The designer interactively changes the design drawing right on the CRT screen and then analyzes its effect on other parts of the design.



Before implementing the HP Desktop System, the designers made these studies from photographs taken from many angles. It often took three days to get the photos from the lab before the data could be input manually to a computer by digitizing a single design drawing then rotating it for various views. This complete process now takes hours not days.



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HP Computer Graphics Products

The Growing HP Graphics Offering

Computer graphics has rapidly become an important product feature in both our technical and business computer product lines. HP is now a leader in this area—the only major computer supplier to offer such a broad range of graphics systems, peripherals and software. In the last few years, we have surpassed many of the veteran graphics vendors in sales volume. In FY'79, we were the second leading supplier of computer graphics behind Tektronix.

Technical Computer Graphics

Graphics has long been an important product strength in our technical computers. HP's first desktop computer, the 9100A, introduced in 1968, offered limited graphics output capability with the 9125A Plotter. Since then, new model desktops have provided increasingly sophisticated hardcopy graphics capability. Today, the System 45 and HP 85 offer an integrated "graphics systems" approach with combined graphics display and graphics peripheral support.

In 1978, HP introduced GRAPHICS/1000, making it possible for HP 1000 users to add graphics to their applications programs. GRAPHICS/1000 software, coupled with devices such as the HP 2647 Graphics Terminal or HP 1350 Graphics Display System, provides our customers advanced graphics tools for a wide range of technical display applications.

HP's array of graphics peripherals is another important area of competitive strength; our graphics peripherals currently include multi-color flatbed plotters, graphics terminals, a digitizer, graphics printers, high resolution vector displays, a plotter/printer, and a new graphics tablet.

Whether our technical customers' requirements call for the HP 85 Personal Computer, one of the powerful 9800-series Desktop Computers or the multi-user HP 1000, graphics capability is an important selling point. We plan to take advantage of this rapidly growing opportunity by supplying technologically innovative HP graphics products.

Business Graphics

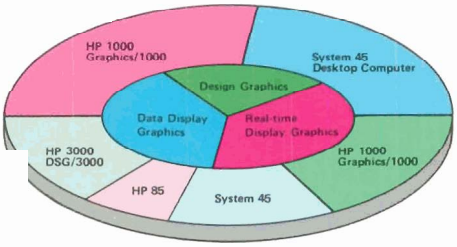
Computer-generated Business Graphics is a new application not only for HP, but for our customers as well. Business managers have long needed a way to take advantae of the growing information sources available to them. By making more of this information accessible in an easy to use form, graphics can help the manager gain better control of his organization's planning process and day-to-day operations.

Our HP 2647A Intelligent Graphics Terminal, for example, is very attractive to business users because it is easy to learn and requires no programming. When combined with the HP 9872 Four-color Plotter, it has proven an effective "door opener" in new business account development.

Our HP Decision Support Graphics/3000 (DSG/3000) software, recently introduced, builds upon an already impressive array of HP 3000 features for business data processing, but it should also be particularly attractive to management users. With it, non-programmers can produce useful, graphical reports as well as charts for meetings and special analyses.

Our graphics peripherals form the broadest of our graphic product lines with pen plotters from San Diego; raster graphics printers from Boise, Greeley and San Diego; a digitizer and new graphics tablet from Greeley; graphics terminals from DTD, graphic displays from Colorado Springs; and graphic displays and hardcopy printers integrated into desktop computers from DCD.

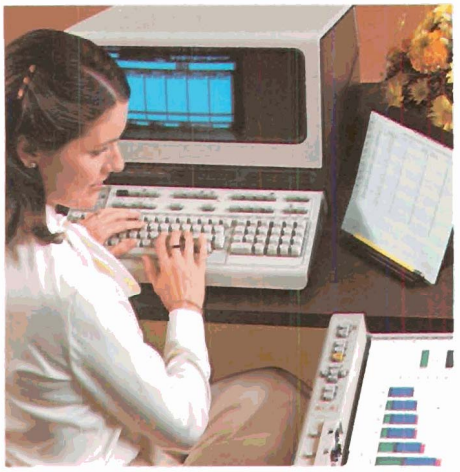
The following Pie Chart shows how our graphics products fit into the Market and Applications Pie Chart from page 4. A table of HP graphics peripherals and systems appears on page 15.



In software, we are developing AGL as our graphics programming language. This language is a high-level programming tool that facilitates the generation of charts and graphic images. Many higher-level applications software packages are also offered that integrate graphical output into specialized functions

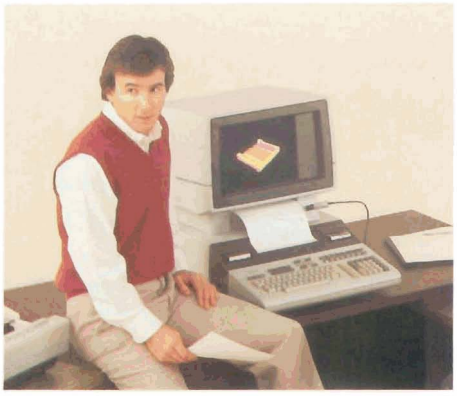
In FY'81, our R&D effort in developing new graphics products will strengthen our position in providing technical data display and business graphics, and pave the way for new opportunities in interactive design graphics applications.

Here are the graphics systems, mainframes, peripherals and software packages that HP offers:



HP 2647A Intelligent Graphics Terminal allows simplified creation of charts and graphs without dependence on a host computer for graphics software support. Pie, bar and line

charts can be generated locally using a "fill-in-the-blanks" menu approach. Output can be on paper or transparency film on the HP 9872B Graphics Plotter. Fast, raster hardcopies can be made on the HP 9876A Printer.



System 45 Desktop Computer is a powerful technical computer with optional full-color (4,913 area colors) or single color CRT display and high-level graphics capability. Color images created on the System 45's CRT can be photographed with conventional cameras (35mm and polaroid) and copied in black and white with shading patterns on the built-in thermal line printer.

HP 85 Personal Computer
HP's lowest cost Desktop Computer, the HP 85 provides powerful graphics in a small package. This Personal Computer for Industry offers integrated graphics on the CRT or built-in thermal printer to support a variety of engineering, scientific or financial problem-solving.

HP Decision Support Graphics/3000
DSG/3000 offers the business user an extremely powerful tool for using graphics to analyze financial and operational data. Graphs and charts can be generated from data resident in files, from data bases on the HP 3000 series or from data entered from the keyboard.

GRAPHICS/1000
A powerful, device-independent graphics application tool for the HP 1000. GRAPHICS/1000 offers high-level graphics subroutines that permit simplified programming of graphs and images on a broad range of graphics peripherals.

Our Future

The growing opportunity in Real-Time Display and Design Graphics areas and our commitment to the manufacturing marketplace have resulted in a substantial investment in graphics software, hardware and peripheral development. For example, our current line of plotters performs well in Data Display, but is too small for most Design Graphics applications. So we are developing larger format plotters. Large screen CRT displays work extremely well in Design Graphics applications and Real-Time Display areas where large size and display speed are required. Other products capable of handling the size and speed requirements of Design Graphics are being developed.

In software, our entry into the Real-Time Display and Design Graphics areas will be much like our entry into the Data Display market: we will create programming tools that can be used by OEMs and end-users to develop their own specialized turnkey application packages.

During the next year, new graphics products will be introduced, our strength in Data Display will continue to grow and our investments in Real-Time Display and Design Graphics will begin to pay off.

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Selling Graphics Capability

What Graphics Can Offer the SR

Graphics is an important selling point that makes HP systems stand out in the marketplace. It's also a key selling tool in developing new accounts.

Commercial SRs

Convincing management of the advantages of distributed processing is a must in opening new accounts that have previously organized around centralized "DP Centers." One of the most important advantages of distributed data processing is local management control and information availability. When selling HP computers to management, graphics capability can be an extremely valuable selling tool.

Senior level managers in an organization will be most interested in HP business computer graphics. They will be impressed with the capabilities for creating meaningful financial and operating reports. The ability to use a terminal or desktop computer to draw data down from a large mainframe (or other data source), process it locally and then use graphics to analyze it is very valuable for a manager.

If you only have access to Management Information Systems (MIS) people, you should emphasize the ability of graphics to offer their management users a better way to communicate computer information.

If you are talking to the end user, you can show him how computer graphics can drastically reduce lead times (it's quicker to do the job right at his desk rather than wait in line at the DP Center). Computer graphics can also reduce his volume of output (a single graph can do the job of hundreds of pages of printout).

Our graphics capability should show your customer that we're not only interested in improving productivity at the operation's level, but we're dedicated to improving management's productivity.

DSG/3000 is the first graphics product designed specifically for the HP 3000 computer family. It allows facts to be presented more clearly, makes managers more effective and improves their decision making. No other business computer vendor can offer graphics software with the same useful features provided by DSG/3000. Although several vendors offer software that makes it easy to produce a single chart in a limited number of formats, only DSG/3000 makes it easy to store and organize a multi-page graphical report for periodic management use. With DSG/3000, your customers can generate graphs from large data bases compiled by their EDP department. Complete multi-color, high quality graphical reports can be prepared, unattended, with a single menu entry. Non-programmers can prepare specialized charts for meetings, seminars or reporting. The EDP department can use DSG/3000 to produce graphical reports in addition to standard printed reports.

The HP 3000 also offers Data Base Management, data handling and graphics capabilities that are available over a distributed systems network. By putting the computer where the work is and giving it powerful graphics tools, we are complementing our distributed systems strategy. The HP 3000 with DSG/3000 is truly a one-system, one-vendor graphics solution.

But let's not overlook our graphics terminal capabilities. Keep in mind that by selling an HP 2647A to new accounts, you can also be developing important relationships for future computer sales. The 2647A offers the business user an easy-to-use and easy-to-learn method of producing business graphs and text slides. Recent ads in *Business Week* demonstrate the high level of management interest in graphics capability on terminals. This ad series generated more than 2,000 leads and several customers were ready to buy after only reading the ad!

Technical SRs

Graphics has long been used to enhance a prospect's appreciation for the flexibility of desktop computing. Engineers in all disciplines easily see the value of graphics in interpreting test results, evaluating design modifications or conducting feasibility studies. Scientists and technicians regularly rely on sophisticated computer graphics to "condense" massive amounts of data into visual representations. A demonstration using graphics always helps to show these customers the power and convenience that desktop computing can bring to a broad number of scientific and technical applications.

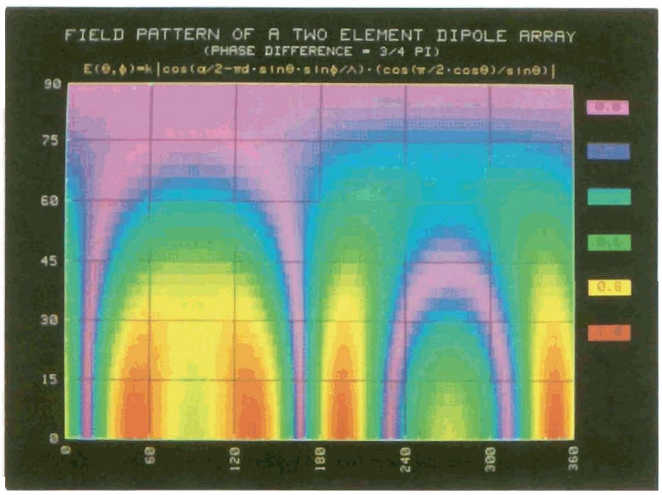
Regardless of what business your customers are in, a better understanding of the facts will help them make the right decisions. And the best way to get a better understanding is to present the facts in graphical form. Graphical representations of data can say more faster, and with less effort. The mechanical design engineer designing a new aircraft landing gear needs to visualize how it will fold into the fuselage. By depicting the gear in various positions on a CRT or terminal, he/she can quickly determine the feasibility of the design.

Benefits of graphics to stress to engineering and scientific customers are:

- Faster, easier data interpretation
- Increased productivity of professional personnel
- Capability to help simulate and solve complex problems
- Better designs the first time; more creative and innovative results for the time spent.

Besides being a good sales tool, graphics can be a good entry technique as well. Find out who is utilizing graphics in your accounts, check art departments and technical drawing departments: see what kind of graphics they are doing and for whom. Impress your customers with the high quality overhead slide generation capability of the HP System 45B, HP 2647 with Graphics Presentations software and an HP 9872 plotter.

Whether it's a Data Acquisition and Control applications (48% of HP 9825 systems have plotters) or a computational application (51% of HP 9845 systems have plotters), graphics can help show your technical customer the added benefits of an HP computer product.



Are You Using The "Graphics Advantage" To YOUR Advantage . . .

. . . In Proposals?

The table on page 15 gives an overview of HP's graphics hardware, software and peripherals. Notice that our graphics offering spans our complete computer line from the HP 85 to the HP 3000 family.

. . . In Customer Demonstrations?

Ever noticed where the crowds form in the HP booth at computer shows? At the graphics demonstration! Graphics is a powerful drawing card for seminars and always generates a lot of interest on the show floor. HP's multi-color plotters, overhead slide capability and graphics software demonstrations can capture your audience's attention and hold it.

Demonstrations in the Field Sales Office can also be enhanced by adding graphics. In fact, start off with the graphics portion of your demo; you can bet this won't happen at another vendor's office!

One of the best ways to get senior management's interest is to offer to prepare several overhead transparency graphs for their next meeting. This can be successful in transforming these "key decision-makers" into HP supporters.

If you aren't including graphics in your seminar programs, you're missing a successful way to introduce managers and technical users to HP's computer product line.

In the past year, HP has conducted several seminars throughout the world, and we've found that senior level managers attend our graphics seminars while they may avoid other HP seminars because they feel the topics may be "too technical." Excellent graphics seminars are now available and others will soon be announced.

Put HP's graphics capability to work on your next sales call . . . it's an advantage you can't afford to overlook.

HP Graphics Systems and Peripherals

HP Graphics Systems and Peripherals

Graphics Device	Size/ Resolution (dots)	Interface	US Price	Systems Support: Desktop Computer*	Systems Support: GRAPHICS/ 1000	Systems Support: DSG/ 3000	Systems Support: Graph. Term. Multiplot
Stand-alone Graphics Systems							
HP 85	256X192	-	$3,250	Yes		-	-
9845T	560X455	-	14,000–23,500	Yes		-	-
9845C	560X455	-	31,500–39,500	Yes	-	-	-
Graphic CRT Displays							
2648A	720X360	RS-232C /V.24	5,950	-	Yes	Yes	
2647A	720X360	RS-232C /V.24	8,950	-	Yes	Yes	
1350S	1000X1000 14",17", 19" and 21" diag.	HP-IB	8,750–9,300	9825A/B	Yes		
Raster Copy Devices							
9876A	560 wide 77/in.	HP-IB	3,950	9825/35		-	2647A/48A
7310A	8 1/2"wide, 100/in.	HP-IB	5,250	9825/35/ 45	-	-	2647A/48A
2631G	3 1/2" to 14-7/8" wide, 100/in.	HP-IB	4,550	9825/35/ 45	-	-	2647A/48A
2608A	3-1/2" to 14-7/8" wide, 100/in.	Parallel Differen- tial	9,900	9835/45	Yes		
Vector Plotters							
7225A/ 17601A	8-1/2" X 11" .0013" resol.	HP-IB	2,800	Yes	Yes	Yes	2647A
7225A/ 17600	8-1/2" X 11" .0013" resol.	GP-IO	2,200	9815/25	-		
7245B	8-1/2"X 11" long axis plots up to 5m., .001" resol.	HP-IB	5,200	HP85A/9825/ 9835/45	Yes	Yes	2647A

*With Graphics ROMs

Sales Aids, Seminars

HP Graphics Systems and Peripherals (Continued)

Graphics Device	Size/ Resolution (dots)	Interface	US Price	Systems Support: Desktop Computer*	Systems Support: GRAPHICS/ 1000	Systems Support: DSG/ 3000	Systems Support: Graph. Term. Multiplot
Vector Plotters Cont.							
9872B	Up to 11"X17" .001" resol.	HP-IB	5,000	Yes	Yes	Yes	2647A
9872S	Up to 11" X17" .001" resol.	HP-IB	6,750	Yes	Yes	Yes	2647A
7221B/S	Up to 11"X17" .001" resol.	RS-232C/ V.24	5,000(B) 6,750(S)	-	Yes	Yes	-
Input Devices							
9874A	12"x17" .001 resol.	HP-IB	7,900	Yes	Yes	-	-

Graphics Literature and Sales Aids

A wide variety of literature and demonstration aids are available to promote HP's computer graphics product lines. General promotion brochures like the Technical Computer Group Graphics Brochure (5953-4532) are excellent for developing new prospects and key accounts. They present the general features and benefits of HP computer graphics and a broad overview of the large number of configurations available to support specific graphic needs.

To introduce your prospects to HP graphics, a number of highly effective direct mail pieces or flyers can be used. Such flyers as the "HP 2647 Intelligent Graphics Terminal" (5953-2013) and the System 45C Direct Mail Flyer (5953-4504) are effective when used in local sales office mailing campaigns.

Multi-color sample plots are also available for demos, seminars, handouts and mailings. Several of these plots are available for the HP 9872B/S Plotters.

Data sheets for all graphics products are also helpful when you are down to specifying a particular system and each Factory Sales Support group can supply you with extensive demo software.

All literature is available from the Corporate Literature Center in Palo Alto. Check with your sales office's Literature Clerk for a complete listing of sales promotion literature (it's now available on microfiche and listed by product type).

Graphics Customer Seminars

Several Graphics Seminars are available for customer presentation. These seminars range from basic tutorials on the application of graphics to product-specific seminars on System 45C color graphics.

These seminars usually require at least one 35mm slide projector and average about 45 minutes in length. Contact your Factory Sales Support group for ordering information and abstracts of seminar content.

Additional Information

A good place to begin finding out more about HP's graphics capabilities is to introduce yourself to our graphics programming language, AGL. You can do this in one evening with an HP 85 Personal Computer. With it, you will quickly see how easy it is to develop your own AGL graphics programs. The HP 85 Plotter/Printer ROM Manual (P/N 00085-90140) uses a step-by-step approach to learning AGL and includes a number of useful programming examples.

Field Training Manuals for each graphics mainframe are another source of graphics capability information. FTMs provide helpful application, competitive and ordering information. In most cases, FTMs can be ordered by a standard 10-digit part number. The best source for FTMs is your Factory Sales Support group.